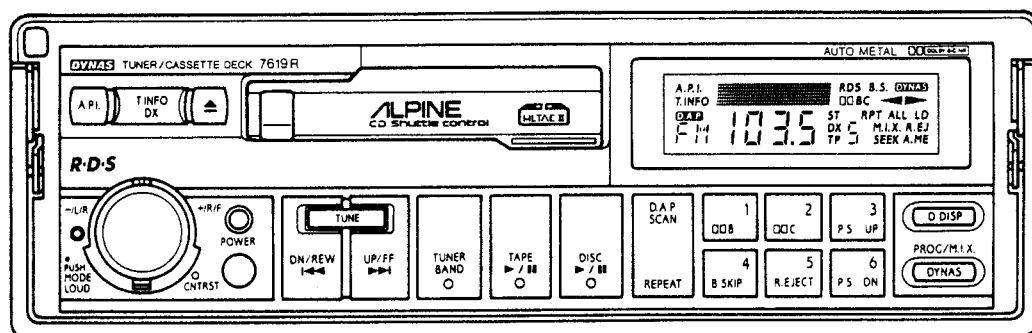


ALPINE SERVICE MANUAL

FM/MW/LW/RDS Cassette Player

- The model described in this manual is developed from Model 7618R. For information that is not mentioned in this service manual, refer to the Service Manual 7618R (68P40971W02).
- For the cassette deck mechanism parts (GR75H030) of this model, refer to the Service Manual • GR/GR-Y Series (68P20504W05).



7619R

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Description of IC Terminals

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Semi-Conductor Lead Identifications

Refer to the Service Manual 7618R (68P40971W02).

Specifications

FM RADIO

Intermediate Frequency	10.7 ± 0.1MHz
Frequency Range	87.5~108MHz
Usable Sensitivity (Stereo at 98.1MHz)	17.2dBf
-10dB Limiting Sensitivity (at 98.1MHz)	13.2 ± 6dBf (DYNAS OFF)
	12.2dBf (DYNAS ON)
S/N Ratio (Stereo 60dB 98.1MHz)	48dB (DYNAS OFF)
	45dB (DYNAS ON)
IF Rejection (at 90.1MHz)	60dB
Distortion (Input 1mV at 98.1MHz)	1%
Frequency Response (Ref. 400Hz)	100Hz : 0 ± 3dB
	10KHz : -12 ± 3dB
Stereo Separation (at 1,000Hz)	25dB
SK Sensitivity (at 98.1MHz)	25.2dBf
PS Sensitivity (at 98.1MHz)	36.2dBf
TP Sensitivity (at 98.1MHz)	36.2dBf

MW RADIO

Intermediate Frequency	450kHz
Frequency Range	531~1,602KHz
Sensitivity 20dB S/N (at 1,404kHz)	34dB
S/N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	50dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	1.5%
Frequency Response (999kHz at Ref. 400Hz)	100Hz : -3 ± 4dB
	4KHz : -12 ± 6dB

LW RADIO

Intermediate Frequency	450kHz
Frequency Range	153~281KHz
Sensitivity 20dB S/N (at 216kHz)	41dB
S/N Ratio (at 216kHz)	40dB
Image Rejection (at 216kHz)	50dB
IF Rejection (at 216kHz)	50dB
Distortion (at 216kHz)	1.5%
Frequency Response (216kHz at Ref. 400Hz)	100Hz : -3 ± 4dB
	4kHz : -12 ± 6dB

TAPE PLAYER

Wow & Flutter (JIS, WRMS/MTT-111N)	0.2%
Tape Speed (MTT-111N)	4.76cm/sec. +3 to -1%
Signal to Noise Ratio (MTT-212)	Dolby OFF : 52dB
	Dolby B : 58dB
	Dolby C : 65dB
Distortion (MTT-118N)	2%
Frequency Response (Ref. 1kHz, -3dB, MTT-256)	63Hz~12.5kHz
Separation (MTT-141N)	30dB
Crosstalk (MTT-121N)	45dB
FF & REW Time (C-60)	115sec.

GENERAL

Power Supply	DC14.4V
Pre Output Voltage / Impedance	1V / 10kohm
Semiconductors	39IC's, 82Transistors, 31Diodes, 11Zener Diodes
Dimension (W×H×D)	Nose : 171×50×15mm Chassis : 178×50×160mm
Weight	1.6kg

Note : Due to Continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

- **FULL FRONT DIN™ CHASSIS**
- **CD SHUTTLE™ CONTROL**
- **DYNAS SYSTEM**

The DYNAS is an entirely new radio reception system which eliminates radio interference caused by adjacent channels and improves usable sensitivity in FM broadcasting reception. Consequently, with the DYNAS system switch turned ON, some broadcasting stations which are difficult to be received because of adjacent channel interference can be clearly heard with a conventional tuner.

- **Q.R.B. (QUICK RELEASE BRACKET)**
- **GR-HIGH PRECISION/LOW NOISE FULL LOGIC**
- **WIRELESS REMOTE CONTROL**

The 7619R comes equipped with a wireless remote control that can control cassette, tuner and CD Shuttle™ functions.

- **I.D. (INTERACTIVE DISPLAY)**

Interactive Display uses an alpha-numeric dot matrix screen to acknowledge the commands received and display other pertinent information.

- **HLTAC II™ TAPE HEAD**

Alpine's proprietary HLTAC II tape head features Oxygen Free Copper (OFC) coil windings to prevent low level signal loss and corrosion. It also features a super-close-tolerance, extremely narrow 0.8 micron head gap for exceptionally flat and accurate frequency response.

- **P.S. (PROGRAM SENSOR)**

Program Sensor allows skipping up to 9 tracks on the tape in either forward or reverse directions.

- **A.P.I. (AUTO PROGRAM IDENTIFICATION)**

While A.P.I. function turns on in the FM mode, a best receptive RDS station which has same program as the station you are receiving automatically can be received.

- **T. INFO (TRAFFIC INFORMATION)**

While T. INFO function turns on, a traffic information service automatically can be received when a station transmit.

- **D.A.P. (DIRECT ACCESS PRESETS)**

- **A. MEMO (INTELLIGENT AUTO MEMORY)**

- **REPEAT (TAPE, CD)**

- **SCAN (TAPE, CD)**

- **BLANK SKIP**

- **DOLBY* B/C NOISE REDUCTION**

- **S.T.M. (SOURCE TONE MEMORY)**

Automatically memorizes the settings of your Bass/Treble Controls for each source.

- **DUAL PRE-AMP OUTPUTS**

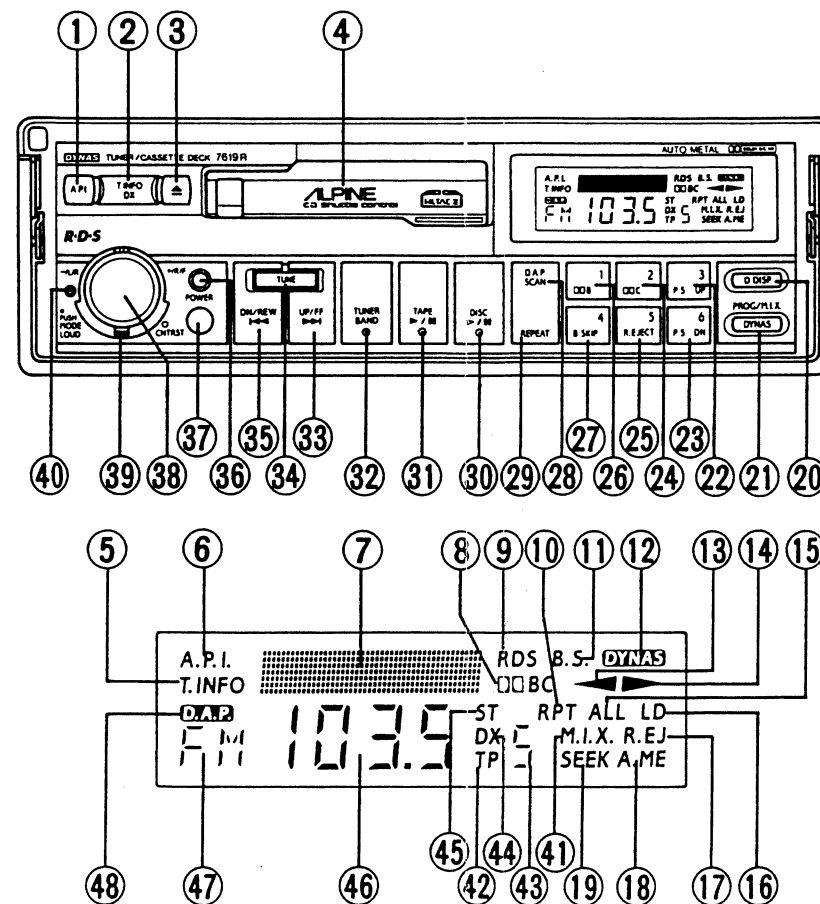
Dual pre-amp outputs, along with a pre-amp fader, make easy and complete system expansion possible.

- **LITETOUCH™ 30-STATION PRESETS**

FM1 : 6, FM2 : 6, MW : 6, LW : 6, D.A.P. : 6

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol () are trademarks of Dolby Laboratories Licensing Corporation.

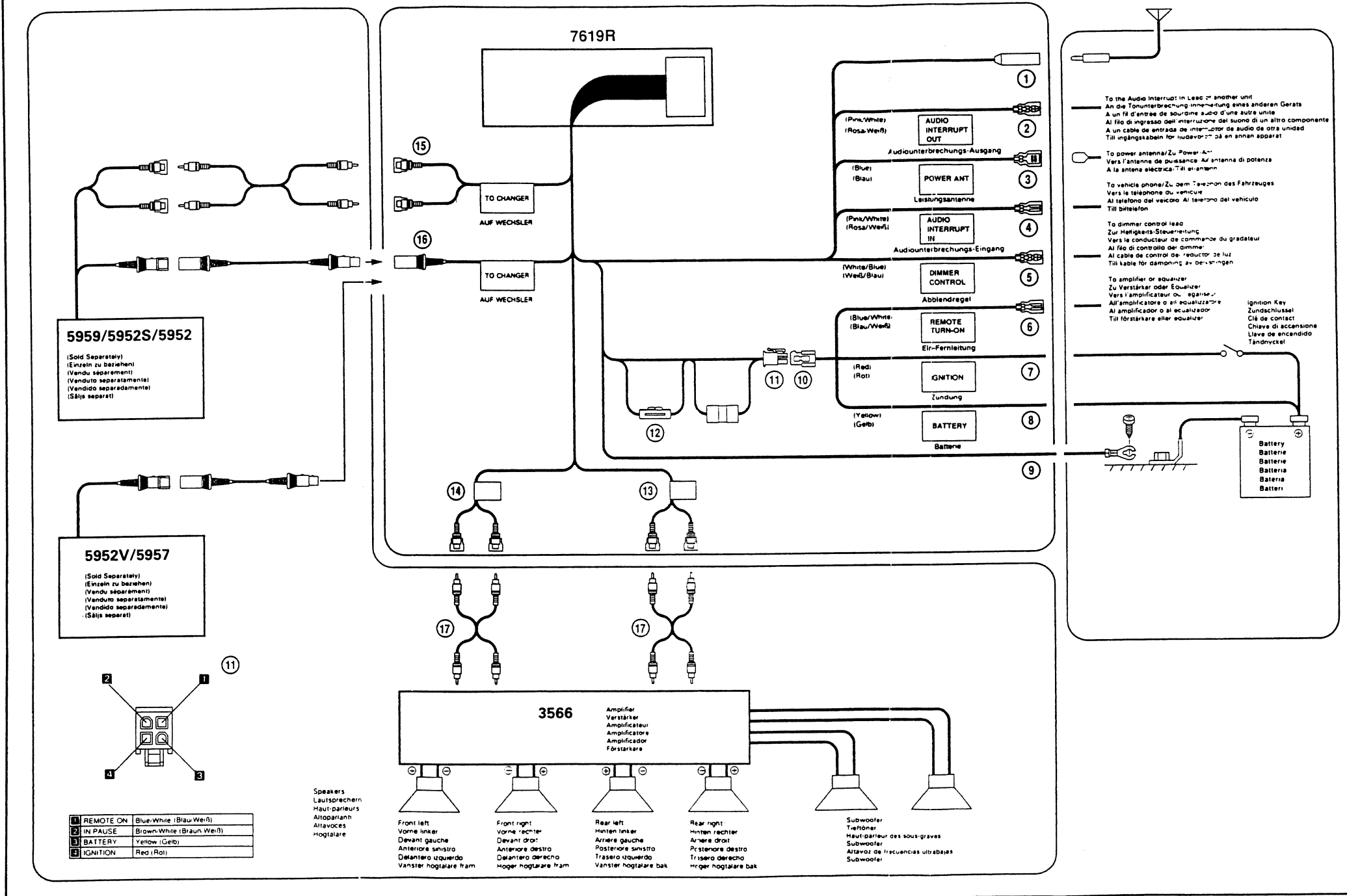
CONTROLS AND INDICATORS



CONTROLS AND INDICATORS

- 1 Auto Program Identification Button
- 2 Traffic INFOrmation/DX (Local/Distance) Button
- 3 Eject Button
- 4 Cassette Loading Slot
- 5 T. INFO Indicator
- 6 A.P.I. Indicator
- 7 Dot Matrix Display
- 8 Dolby B/C NR Indicator
- 9 RDS Indicator
- 10 RePeaT Indicator
- 11 Blank Skip Indicator
- 12 DYNAS Indicator
- 13 Tape Direction Indicator (Reverse)
- 14 Tape Direction Indicator (Forward)
- 15 ALL Indicator
- 16 Loudness Indicator
- 17 Return EJECT Indicator
- 18 A. MEMory Indicator
- 19 SEEK Indicator
- 20 Demonstration DISPlay Button
- 21 PROGram//M.I.X./DYNAS Button
- 22 Preset and Direct Disc Access No. 3/P.S. UP Button
- 23 Preset and Direct Disc Access No. 6/P.S. DN Button
- 24 Preset and Direct Disc Access No. 2/Dolby C NR Button
- 25 Preset and Direct Disc Access No. 5/Return EJECT Button
- 26 Preset and Direct Disc Access No. 1/Dolby B NR Button
- 27 Preset and Direct Disc Access No. 4/Blank SKIP Button
- 28 D.A.P. (Direct Access Preset)/SCAN Button
- 29 REPEAT Button
- 30 DISC (Play ► /Pause II) Button
- 31 TAPE (Play ► /Pause II) Button
- 32 TUNER/BAND Button
- 33 UP/FF Switch (►►)
- 34 TUNE Switch
- 35 DN/REW Switch (◀◀)
- 36 POWER On/Off Switch (PUSH)
- 37 Sensor Window for Remote Control
- 38 Audio MODE Select Switch/Volume up down/LOUDness Button
- 39 CoNTRaST Control
- 40 Reset Switch
- 41 M.I.X. Indicator
- 42 TP Indicator
- 43 Preset No./Disc No. Indicator
- 44 DX Indicator
- 45 STereo Indicator
- 46 Digital Display
- 47 Band/Track No. Indicator
- 48 D.A.P. Indicator

Connections/Anschlüsse/Connexions/Collegamenti/Conexiones/Anslutningar



OPERATION

● BASIC OPERATION

Function Confirmation Display

With each touch on the function buttons, your selection is shown on the dot matrix display ⑦ in large characters for 2 seconds.

Initial System Start

When operating the system for the first time after installation or after the vehicle's battery has been disconnected and reconnected, set the volume level to its minimum, then carefully press the Reset switch ⑩ with a sharp pencil or any other pointed object.

How to adjust the volume and tone (Refer to the diagram in next page.)

1. Turn on the system by pushing the POWER On/Off switch ⑨ or any other button (other than Eject ③ or Reset ⑩).
2. Press the Audio MODE Select switch ⑪ to select each adjusting mode.

TREBLE → BASS → BALANCE → FADER → VOLUME

Each time this switch is pressed, the mode changes. The mode is indicated in the display. The mode indicator changes as each mode is selected.

3. Once the desired mode appears in the display, use the Audio MODE Select switch ⑪ to make your adjustment. The display will return to the previous mode indication after 5 seconds.

Power Off

Press the POWER On/Off switch ⑨ to turn the unit Off.

LOUDness

Press the LOUD button ⑫ for more than 2 seconds to activate the loudness function. Press the LOUD button ⑫ for more than 2 seconds again to defeat this feature.

Mode Switching of the 7619R

1. Radio Mode
Press the TUNER button ⑭ to put the unit into the radio mode. The Band indicator ⑬ (FM1, FM2 or MW/LW) will appear in the display.
2. Cassette Player Mode
Press the TAPE button ⑮ to put the unit into the cassette player mode.
3. CD Shuttle Mode
Press the DISC button ⑯ to put the unit into the CD mode.

CoNTRaST Control ⑭

Use this control to adjust the brightness of the dot matrix display based on your angle of sight.

Six Modes Setting Function

This unit allows setting of six modes shown below. For further details, refer to the description on each mode.

- Preset No. 1: FM level switching.
Preset No. 2: Sound volume setting during reception of traffic information.
Preset No. 3: Operation switching when a traffic information station is not received.
Preset No. 4: Operation switching for Q.R.B. Minder.
Preset No. 5: Switching of automatic tracing function. (API-1/API-2)
Preset No. 6: Built-in lighting switch function (amber/green).

OPERATION

Indication example	Turn the Audio MODE Select switch.	
	Left	Right
VOLUME adjust. VOLUME - 2 5 (-∞ ~ 0)	Volume decrease VOLUME - 0 0	Volume increase VOLUME 0
TREBLE adjust. TREBLE - 4 (-7 ~ +7)	Treble decrease TREBLE - 7	Treble increase TREBLE + 7
BASS adjust. BASS - 3 (-7 ~ +7)	Bass decrease BASS - 7	Bass increase BASS + 7
BALANCE adjust. BALANCE - - - (0 ~ 8)	Volume increase of left speaker BALANCE L 0	Volume increase of right speaker BALANCE R 0
FADER adjust. FADER - - - (0 ~ 8)	Volume increase of rear speaker FADER R 0	Volume increase of front speaker FADER F 0

S.T.M. (Source Tone Memory)

The Bass and Treble controls can be individually set for each source (FM, MW/LW, Tape, and CD). Once set, their positions are automatically memorized. Whenever the source is reselected, the Bass and Treble controls will return to your preset configuration.

Message Display

A message about your new 7619R was input at the factory. Press the D. DISP button ⑰ to display the Alpine message. Pressing the D. DISP button ⑰ again deactivates this function.

Switching the Lighting Color

Lighting colors (amber/green) for the front panel can be changed.

1. Press the TUNE switch ⑱ for 3 seconds.
2. Press the Preset No. 6 button ⑲ to switch the lighting between green and amber.

OPERATION

● RADIO OPERATION

Tuning Band Selection

Press the BAND button ⑳ to select the desired tuning band. The Band indicator shows your selection.

DYNAS System Mode

Follow the instructions below to receive the FM broadcasting clearly with the DYNAS system used.

1. Press the DYNAS button ㉑.
2. The DYNAS indicator ㉒ will illuminate in the display.

NOTE:

If distortion and noises higher than those obtained in normal reception are heard, set the DYNAS mode to OFF. The increased distortion and noises will be caused in many cases by reasons shown below.

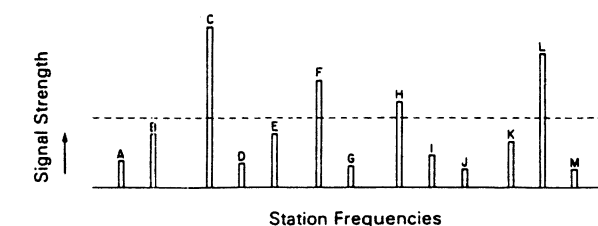
1. When reception frequency is deviated
In the 7619R, a reception frequency is received in the step of 0.05 MHz, so ± 0.025 MHz deviation may be caused depending upon broadcasting stations.
2. When transmission signals are overmodulated in broadcasting stations
Some broadcasting stations may be transmitting signals with increased modulation depth to increase sound level.

Local/Distance (DX) Seek Sensitivity for FM, MW and LW

You can select the radio seek sensitivity local or distance (DX), by pressing the DX (distance) button ㉓ for more than 2 seconds.

In the local mode, with no DX indication ㉔, the radio tunes in only strong stations (stations C, F, H and L in the illustration below).

In the distance mode, with DX indication ㉔, the radio tunes in both strong and weak stations (all stations from A to M in the illustration).



Automatic FM Stereo/Monaural Switching

The unit automatically switches from the stereo to monaural mode and the "ST" indicator ㉕ disappears if the FM signal becomes weak to reduce the noise level. It automatically switches back to the stereo mode when the FM signal becomes strong and the "ST" indicator ㉕ appears.

OPERATION

Manual Tuning

1. Press the TUNE switch ⑭ until the MANUAL indicator appears in the dot matrix display ⑦.
2. To select the tuning band, press the BAND button ⑫. The Band indicator shows your selection.
3. To tune to higher frequencies, press the UP switch ⑬. To tune to lower frequencies, press the DN switch ⑮.

Auto SEEK Tuning

1. Press the TUNE switch ⑭ until the SEEK indicator ⑩ appears in the display.
2. Select the tuning band with the BAND button ⑫.
3. Press the UP (▶▶) ⑬ or DN (◀◀) ⑮ switch. The unit automatically tunes to the next higher or lower frequency and locks on that station.

Preset Memory Programming

Follow the instructions below to program stations into preset memory:

1. Select the tuning band (FM1, FM2, MW or LW) with the BAND button ⑫.
2. Tune in your desired station using Manual or Auto SEEK tuning.
3. Press the Preset button number 1 ⑰ for more than 2 seconds. The digital display ④ will begin to blink. Press that preset button again while the display is blinking (within 5 seconds).
4. The frequency you selected will be placed into Preset Memory number 1 and will appear in the display.

NOTE:

If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.

5. Follow steps 2 — 3 for the remaining presets (2 — 6). Use this procedure for FM1, FM2, MW and LW.

Auto Memory Preset

1. Press the TUNE switch ⑭ to light up the A. ME indicator ⑩.
2. Select the desired tuning band (FM1, FM2, MW or LW) with the BAND button ⑫.
3. Press the UP ⑬ or DN ⑮ switch. The tuner will automatically seek the 6 strongest stations in each band and memorize them in order of the signal strength. These stations are automatically placed in the preset memory with the strongest station in Preset No. 1 and the 6th strongest station in Preset No. 6. When seeking stations, the tuner first seeks in the local tuning mode. If less than 6 stations are memorized, the tuner seeks again in the distance (DX) mode.
4. After finishing the Auto Memory Preset, the tuner goes to the station placed in Preset Memory No. 1. If no stations are memorized, it returns to the original station you were listening to before the Auto Memory Preset procedure began. When auto memory presetting is completed, the A. ME indicator ⑩ will disappear and the SEEK indicator ⑩ will appear.

NOTE:

The Auto Memory Preset feature also works in the D.A.P. mode.

OPERATION

Preset Tuning

After the preset stations have been memorized, you can tune in your desired station (within the band displayed) with one touch of a button.

1. Select the tuning band (FM1, FM2, MW or LW) with the BAND button ⑫.
2. Press any one of the Preset buttons (⑰ — ⑳) and the number of that Preset will illuminate in the dot matrix display ⑦.
3. The frequency of the station placed in the selected preset location will appear in the display.

D.A.P. (Direct Access Preset)

This feature allows the storage of FM, MW and LW presets on the same band. Press the D.A.P. button ⑲ to light up the D.A.P. indicator ④. To program stations into the D.A.P. band, follow steps 1 — 3 as described in the Preset Memory Programming section on page 12.

Accessing the D.A.P. Presets

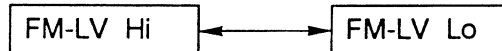
1. Press the D.A.P. button ⑲. The D.A.P. indicator ④ will illuminate in the display.
2. Press one of the preset buttons (⑰ — ⑳).
3. The frequency of the station placed in the selected D.A.P. location will appear in the display.

Switching the FM Volume

Use this function if the difference in volume is great when switching between a tape and the FM radio.

1. Press the TUNE switch ⑭ for 3 seconds.
2. Press the Preset No. 1 button ⑰ to switch the display between "FM-LV Hi" and "FM-LV Lo".

The FM volume can be set to one of two positions, high or low. Set the position according to the broadcast station.



OPERATION

● TAPE PLAYER OPERATION

Turn the unit on and press the TAPE (▶||) button ⑪ to access the tape mode.

Dolby* B/C Noise Reduction

Before playing a cassette tape, check to see if it is encoded with Dolby B or C noise reduction. Press the Dolby NR B or C button (⑳ or ㉑) when playing a Dolby NR encoded tape. The Dolby NR B or C indicator ⑥ on the button will illuminate.

Cassette Loading

1. Insert a prerecorded cassette tape into the Cassette Loading Slot ④ with the open side facing to your right.
2. If the cassette tape is not completely loaded into the deck, lightly press the cassette into the slot.

Eject

Press the Eject button ③ to eject the cassette from the tape mechanism.

Pause

To temporarily stop playback, press the TAPE (▶||) button ⑪. To resume playback, press the same button again.

Playback

1. Insert a prerecorded cassette tape with the open side facing right. The playback begins immediately.
2. If a cassette tape is already loaded in the unit, press the TAPE (▶||) button ⑪ to start playback.
3. To stop tape play, press the Eject button ③ or turn the power off with the POWER On/Off switch ②.

NOTE:

Push the TUNE switch ⑭ with the tape or CD played in the A.P.I. or T. INFO mode, and the unit will be set to the TUNER mode and the tuning is possible.

True Fast Forward and Rewind

1. Press the FF switch ⑬ to advance the tape quickly. Press the REW switch ⑭ to rapidly run the tape backward. The deck will perform these functions correctly regardless of the tape play direction.
2. To disengage the FF or REW function, press the TAPE (▶||) button ⑪.

OPERATION

Program Sensor

- To advance the tape to the beginning of the next musical track, press and release the P.S. UP button ②. The display will show "P.S. UP + 1" as shown below. Successive pressing of this button will increase the number of tracks to be skipped as the tape advances. The number in the display will increase accordingly. For example, to go from track 1 to track 4, press the P.S. UP button ② three times (the number in the display will be "+3"). The tape deck searches for blank sections between tracks to the beginning of track 4 and begins playback.
- To access the beginning of the current musical track, press and release the P.S. DN button ③. The display will show "P.S. DN -1". Successive pressing of this button will increase the number of tracks to be skipped as the tape rewinds. The number in the display will increase (in the negative direction) accordingly. For example, to go from track 5 to track 4, press the P.S. DN button ③ twice (the number in the display will be "-2" as shown below). The tape deck searches for blank sections between tracks to the beginning of the track 4 and begins playback.

[Example]

P.S. UP
+1

P.S. DOWN
-2

NOTE:

The P.S. cannot detect blank sections of less than 3 seconds.

Auto Reverse

When the tape is played or fast-forwarded to the end, the tape transport automatically reverses the tape direction and playback begins.

Manual Reverse

To manually change playback direction (switch between side A and side B), press the PROG button ⑩.

REPEAT

- Insert the cassette tape and begin playback.
- When you find a selection you would like to repeat, press the REPEAT button ⑨ until the RPT indicator appear in the display. This selection will be continuously repeated until the REPEAT function is disengaged.
- To cancel the repeat function, press the REPEAT button ⑨ again. The RPT indicator ⑩ will disappear.

SCAN

- Press the SCAN button ⑪ and the deck will play the first 10 seconds of each selection. This feature is convenient when searching for a particular selection on a tape.
- Once you have located your desired selection, press the SCAN button ⑪ again to defeat this function.

Blank SKIP

- Press the B. SKIP button ⑫ during playback to skip over any blank sections of tape lasting 15 seconds or more.
- To cancel the Blank Skip function, press the B. SKIP button ⑫ again.

Return EJECT

- Insert the cassette tape and begin playback.
- Press the R. EJECT button ⑬ during one of the following modes and the cassette tape will automatically eject when:
 - Playback mode; After both sides A and B have been played.
 - Fast Forward mode; After the other side has been played.The R. EJ indicator ⑭ on that button will light.
- To cancel the Return Eject mode, press the R. EJECT button ⑬ again.

OPERATION

Tape Running Status Display

The dot matrix display ⑦ indicates tape running status. To turn off the display, push the D. DISP switch ⑮ for more than 2 seconds.

Head Cleaning

When playback sound quality begins to deteriorate, it is time to clean the tape head. Insert a special head cleaning cassette into the tape deck and allow it to run for approximately 1 minute to remove any foreign matter. There are special cleaning cassettes that also clean the capstans and pinch rollers. Please contact your authorized Alpine dealer for information about these cleaning devices.

● CD OPERATION

The following instructions apply only to systems that incorporate the Alpine CD Shuttle with 7619R.

Turn the unit on and access the CD mode by pressing the DISC (▶/II) button ⑯.

Initial System Turn-On

When operating the system for the first time after installation or after the vehicle's battery has been disconnected and reconnected, press the Reset switch ⑰ with a sharp pencil or other pointed object.

Disc Check

When the magazine is loaded into the CD Shuttle under playback status with the DISC (▶/II) button ⑯ pushed, a Disc check for the magazine is carried out.

"DISC CHK" on the dot matrix display ⑦ is blinking during the check, and then the player enters the pause mode after completion of the check.

Normal Play

- Press the DISC (▶/II) button ⑯.
- The first disc will begin playback.
- After the last track on the last disc is played back, the pickup will return to the beginning of the first track of the first disc and begin playback from that point.

Pause

While the disc is playing, press the DISC (▶/II) button ⑯ to temporarily stop playback. The dot matrix display ⑦ will show "PAUSE". To resume playback, press the DISC button (▶/II) ⑯ again.

Music Sensor (Skip)

This feature allows you to access the beginning of your musical track selection simply and quickly. It is functional in the play or pause mode. The Track No. indicator ⑭ shows the track number you have selected.

- To advance to the next track on the disc, press the UP/FF switch ②③.
 - Playback stops, and the pickup moves up to the beginning of the next track. That track number appears in the Track No. indicator ⑭.
 - Playback begins immediately.
 - If you wish to access a track further ahead on the disc, continue pressing and releasing the UP/FF switch ②③ until you reach the track of your choice.
- To replay the track that is currently playing, press and release the DN/REW switch ②④.
 - Playback stops, and the pickup moves back to the beginning of the current track. The track number in the Track No. indicator ⑭ remains the same.
 - Playback begins immediately from the beginning of the track.
 - If you access a track further towards the beginning of the disc, continue pressing and releasing the DN/REW switch ②④ until you reach the track of your choice.

OPERATION

Direct Disc Access

- Press one of the Direct Disc Access buttons (②② — ②⑦) to select from discs 1 — 6. The disc and track numbers will appear in the display.
- Press the UP/FF ②③ or DN/REW ②④ switch for musical track selection.

Fast Forward/Fast Backward

The fast forward/fast backward feature works in the play mode only.

- Press either the FF ②③ or the REW ②④ switch and hold it down for more than 1 second.
- To move the pickup forward rapidly, hold down the FF switch ②③.
- To move the pickup backward rapidly, hold down the REW switch ②④.
- Release the button when you get to the desired position on the disc.
- When the pickup reaches the end of the disc, it will begin playback from the beginning of the first track on the next disc.

REPEAT (One/All)

This feature allows you to continuously repeat a single track or one entire disc.

To Repeat a Single Track

- Locate the music track of your choice using the UP ②③ or DN ②④ switch.
- Press the REPEAT button ⑨.

The RPT indicator ⑩ will illuminate, and "RPT ONE" indicator on the dot matrix display ⑦ will appear.

The music track will be played back repeatedly.
- To stop repeat play, press the REPEAT button twice. The "RPT OFF" indication on the dot matrix display ⑦ will appear.

To Repeat an Entire Disc

- While playing a disc, press the REPEAT button ⑨ until the RPT ⑩ and ALL ①⑤ indicators will illuminate.
- The disc will be played back repeatedly.
- To stop repeat play, press the REPEAT button ⑨ once. The indicator illumination will be off.

Disc Scan

Press the SCAN button ⑪ and the unit will playback the first 10 seconds of each track in succession. This function is useful in searching ahead on a disc for a specific selection. Pressing the SCAN button ⑪ a second time deactivates the function.

M.I.X. (Random Play)

Press the M.I.X. button ②① while the unit is in the play or pause mode. Musical tracks on the selected disc will be played back in a random sequence generated by the microprocessor. After all the tracks on the disc have been played back once, the player will begin a new random sequence.

Q.R.B. Minder

This unit is equipped with a built-in theft prevention reminder system. If the unit is not removed from the Quick Release Bracket after turning the ignition key off, a beeper will sound as a reminder to remove the unit.

Whether the ignition is on or off, the unit may beep when it is being removed from the dash.

You can switch the Q.R.B. Minder system on or off by the following.

- Press the TUNE switch ②② for 3 seconds.
- Press the Preset No. 4 button ②⑦ to switch the display between "QRBM ON" and "QRBM OFF"

QRBM ON

: Q.R.B. Minder is on.

QRBM OFF

: Q.R.B. Minder is off.

NOTE:

The unit is initially set with the Q.R.B. Minder system on. If the vehicle's engine does not start for over 2 seconds after turning the ignition key on, the Q.R.B. Minder system may be triggered.

Adjustment Procedures

1 FM SECTION

(1) Dummy Antenna Circuit

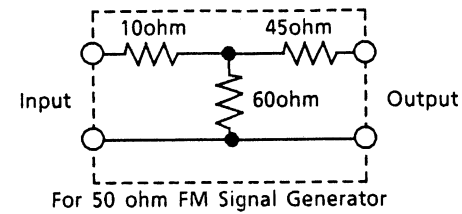


Figure 7

(2) Connections

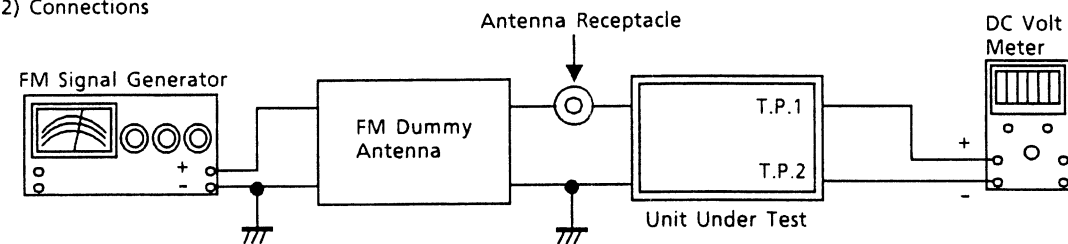


Figure 8

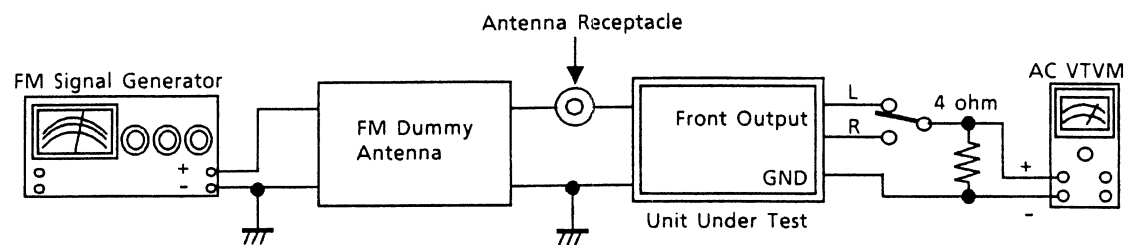


Figure 9

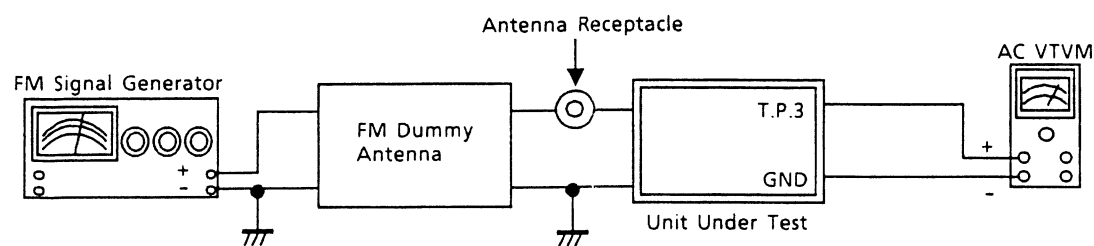


Figure 10

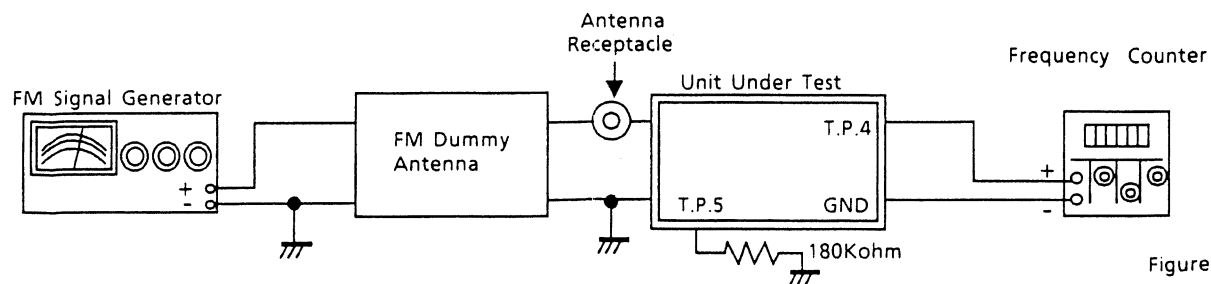


Figure 11

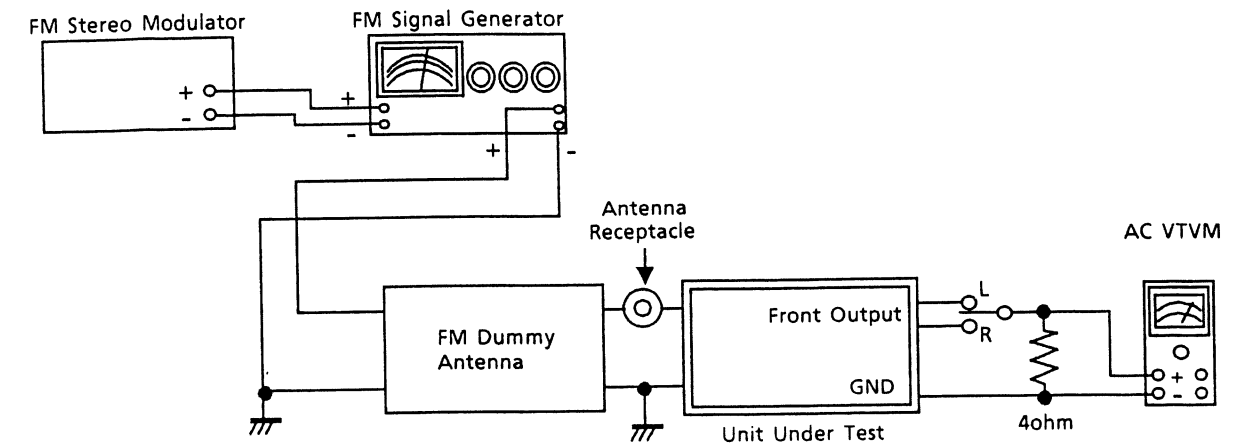


Figure 12

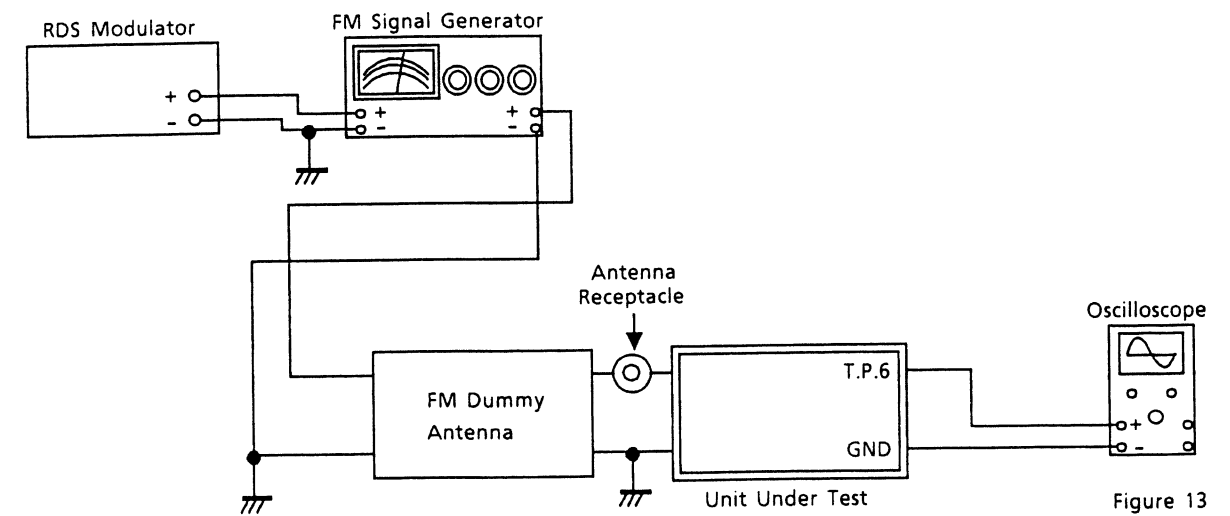
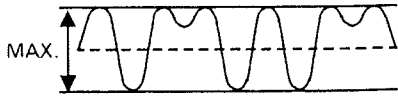


Figure 13

(3) Control Settings

Power Switch	ON
Fader Control	Front
Balance Control	Mechanical Center
Treble / Bass Control	Mechanical Center
Band Switch	FM
Others	OFF

(4) Adjustment Procedures

Step	Description	Connection	Signal Generator	Dial Control	Test Point	Adjustment
1	IF Adjustment	Figure 8	98.1MHz, 72dB (Mod. OFF)	98.1MHz	T.P.1 T.P.2	T2101 for $0 \pm 30\text{mV}$.
2	Noise Level Adjustment	(1) Figure 9	98.1MHz, 72dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	Front Output	Adjust VR204 (VOLUME) to obtain 2V output This value is 0dB.
		(2) Figure 9	98.1MHz, -19dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	Front Output	Adjust VR2102 to $30 \pm 5\text{dB}$ output at SG level minimum.
3	Seek Stop Adjustment	Figure 10	98.1MHz, 27dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	T.P.3	Adjust VR2101 to obtain $27 \pm 5\text{dB}$ at T.P.3 output.
4	VCO Adjustment	Figure 11	98.1MHz, 72dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	T.P.4 T.P.5	Adjust VR002 to read $19 \pm 0.05\text{KHz}$ on Counter at T.P.4.
5	Stereo Separation Adjustment (Lch)	Figure 12	98.1MHz, 72dB (Stereo Mod, Lch, only)	98.1MHz	Front Output	Adjust VR003 for Rch output to be minimum, and confirm Lch and Rch output level difference is more than 25dB.
6	Stereo Blend Adjustment (Lch)	Figure 12	98.1MHz, 46dB (Stereo Mod, Lch, only)	98.1MHz	Front Output	Adjust VR004 for Lch and Rch output level difference to be 8dB.
7	Stereo Separation Adjustment (Rch)	Figure 12	98.1MHz, 72dB (Stereo Mod, Rch, only)	98.1MHz	Front Output	Proceed same adjustment under step 5 by alternating Lch and Rch.
8	Stereo Blend Adjustment (Rch)	Figure 12	98.1MHz, 46dB (Stereo Mod, Rch, only)	98.1MHz	Front Output	Proceed same adjustment under step 6.
9	RDS (Sensitivity) Adjustment	Figure 13	98.1MHz, 72dB (RDS : ON, Mod*: 0.4%)	98.1MHz	T.P.6	Adjust VR001 so that the waveform of oscilloscope becomes maximum as shown in figure below. 

2 TAPE PLAYER SECTION

(1) Connections

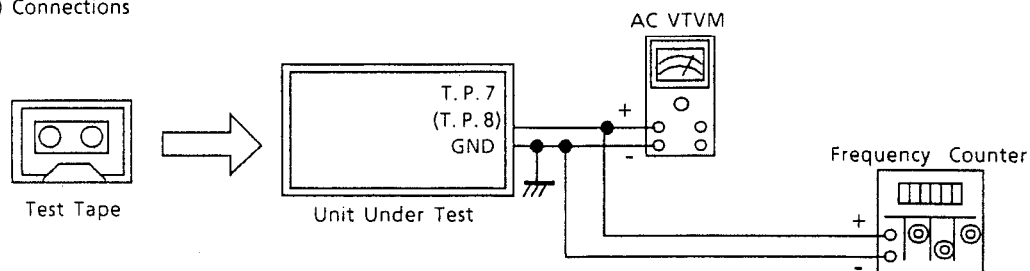


Figure 14

(2) Control Settings

Power Switch	ON
Fader Control	Front
Balance Control	Mechanical Center
Treble/Bass Control	Mechanical Center
Others	OFF

(3) Adjustment Procedures

Step	Description	Test Tape	Connection	Test Point	Adjustment Point	Adjustment
1	Head Azimuth Adjustment	MTT-114NB (14KHz)	Figure 14	T.P.7 (Lch) T.P.8 (Rch)	Head Azimuth Adjustment Screws (Figure 15)	Adjust for Max. and same level output at Normal and Reverse positions.
2	Dolby Level Adjustment	MTT-150 (400Hz)	Figure 14	T.P.7 (Lch) T.P.8 (Rch)	VR301 (Lch) VR302 (Rch)	Adjust for $388 \pm 10\text{mV}$ at T.P.7 (Lch) and T.P.8 (Rch).
3	Tape speed Adjustment	MTT-111N (3KHz)	Figure 14	T.P.7 (Lch) or T.P.8 (Rch)	Tape Speed Adjustment (Figure 16)	Adjust for 2,970 to 3,090Hz at T.P.7 (T.P.8).

Electrical Inspection Specification

1. Measuring Conditions

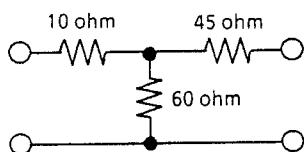
- (1) Power Supply : DC14.4 $\pm$ 0.2V
- (2) Load Impedance : Pre Out: 10k ohm
- (3) Power Output : 0.5V (FM. TAPE), 0.2V (MW/LW), 1.2V (CD)
- (4) Signal Generator Output : SG Indication (SG of OPEN Indication)
- (5) Control Settings
 - Fader — Front Position
 - Balance — Center position
 - Treble — Center Position
 - Bass — Center Position
- (6) Standard Modulations

(FM) Mono : 400Hz 22.5kHz Deviation
 Stereo : 1kHz 22.5kHz Deviation
 Pilot : 8%

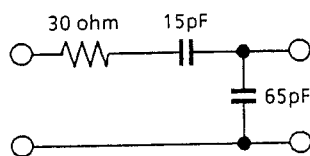
(MW/LW) 30% 400Hz

(7) Dummy Antenna

FM



MW/LW



2. FM Inspection

Step	Item		SG				Spec.
			f (MHz)	Input(dB)	Mod.	ST.	
1	Usable Sensitivity		90.1	18	ON/OFF	OFF	S/N more than 30dB
			106.1	18	ON/OFF	OFF	S/N more than 30dB
2	Stop Level (DX)	To be not Stopped	98.1	21	ON	OFF	
		To be Stopped	98.1	32	ON	OFF	27 $\pm$ 5dB
	Stop Level (LOC)	To be not Stopped	98.1	46	ON	OFF	
		To be Stopped	98.1	67	ON	OFF	57 $\pm$ 10dB
3	Distortion		98.1	72	ON	OFF	less than 1%
4	Stereo Separation		98.1	72	ON	ON:1kHz Lch only	more than 25dB (IHF T-200)
5	Stereo Blend		98.1	43~49	ON	ON:1kHz Lch only	8dB
7	Hi - Cut		98.1	36	ON	ON 10kHz	more than -3dB

Step	Item		SG				Spec
			f (MHz)	Input(dB)	Mod.	ST.	
8	TONE Control	TREBLE (10kHz)	98.1	72	ON	OFF	MAX. +12 ± 3dB
							MIN. -12 ± 3dB
		BASS (30Hz)	98.1	72	ON	OFF	MAX. +15 ± 4dB
							MIN. -15 ± 4dB
9	Loudness	100Hz	98.1	72	ON	OFF	LD indicator should turned ON. Output should be increased (T.INFO Pushed for 3 sec.)

3. MW Inspection

Step	Item		SG			Spec
			f (kHz)	Input(dB)	Mod.	
1	Usable Sensitivity		999	34	ON/OFF	S/N more than 20dB
2	Stop Level (DX)	To be not Stopped	999	23	ON	
		To be Stopped	999	44	ON	34 ± 10dB
	Stop Level (LOC)	To be not Stopped	999	42	ON	
		To be Stopped	999	86	ON	L/D 30 ± 12dB
3	Distortion		999	74	ON	less than 1.5%
4	Level difference from FM level		999	74	ON	-2 ± 3dB

4. LW Inspection

Step	Item		SG			Spec
			f (kHz)	Input(dB)	Mod.	
1	Usable Sensitivity		216	41	ON/OFF	S/N more than 20dB
2	Stop Level (DX)	To be not Stopped	216	23	ON	
		To be Stopped	216	44	ON	34 ± 10dB
	Stop Level (LOC)	To be not Stopped	216	24	ON	
		To be Stopped	216	86	ON	L/D 30 ± 12dB
3	Distortion		216	74	ON	less than 1.5%

5. SDK Inspection

Step	Item	SG				Spec
		f (MHz)	Input(dB)	Mod.	ST.	
1	SK Sensitivity	98.1	26	ON	DK : OFF SK, BK : ON	less than 26dB
2	Alarm Check	98.1	72	ON	OFF	-6 ± 4dB
3	Cut In Output Check	98.1	72	ON	ON SK, BK, DK : ON	10mV ± 3dB with Volume Minimum. (T. INFO : ON)
4	Tape Pause Check	98.1	72	ON	ON SK, BK, DK : ON	Should be pause with pac Inserted.
5	T.INFO SEEK Check	98.1	72	ON	OFF SK, BK, DK : ON	To be Stopped with T. INFO ON.
					OFF SK, BK, DK : OFF	To be not Stopped with T. INFO ON.

6. RDS Inspection

Step	Item	SG				Spec
		f (MHz)	Input(dB)	Mod.	ST.	
1	Auto Follow Check	98.1	37 15	ON	RDS - ON	Turn the A.P.I. switch on and confirm that the station name is displayed. After approximately 5 seconds, decrease -20dB by turning the attenuator on and ensure that the output is available at the L channel only.
		90.1	72		ST - Lch only	
2	FM Level Check	98.1	72	ON	OFF SK, BK, DK : OFF	Press the tune switch for 2.5 seconds and ensure that when the preset 1 is turned on " FM - LV H " is displayed, and after this display " FM - LV L " will be displayed and the output reading is -6 ± 3dB when the preset 1 is turned on again.

7. DYNAS Inspection

Step	Item	SG				Spec
		f (MHz)	Input (dB)	Mod.	ST.	
1	Useble Sensitivity	90.1	13	ON / OFF	OFF	SN : more than 30dB. (T - 200)
		106.1	13	ON / OFF	OFF	
2	S / N (MONO)	98.1	72	ON / OFF	OFF	more than 50dB.
3	S / N (STEREO)	98.1	72	ON / OFF	ON	more than 45dB. (T - 200)
4	Distortion	98.1	72	ON	OFF	less than 1%

8. TAPE Inspection

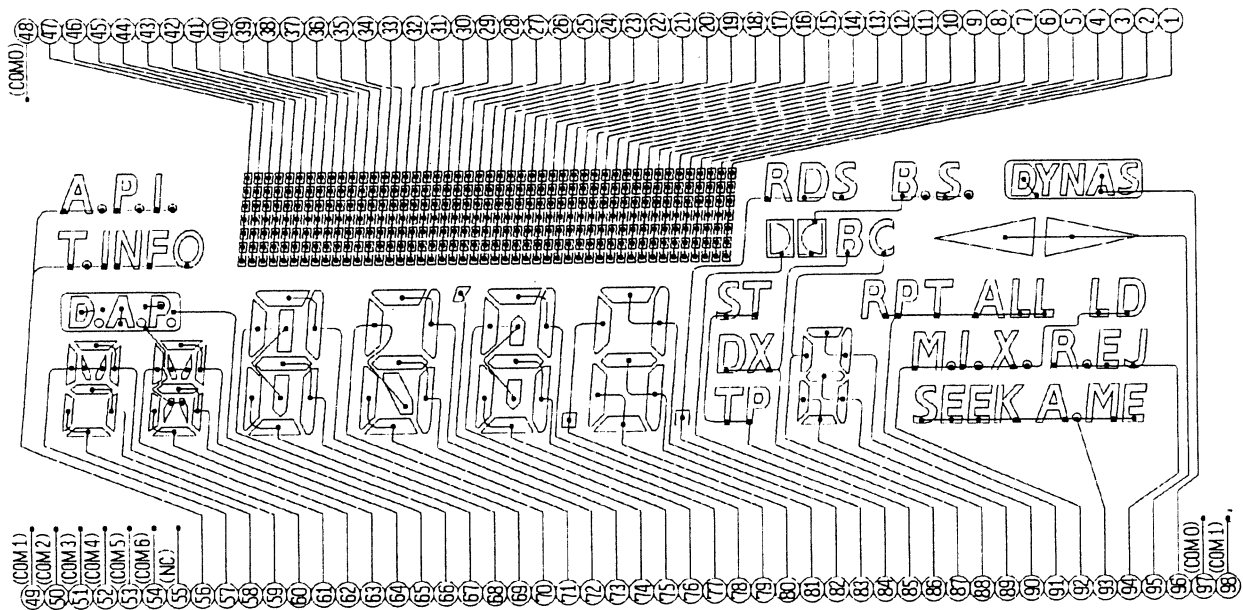
Step	Item		Test Tape	Spec
1	S/N		MTT-212N	JISA FILTER more than 52dB
2	Separation		MTT-141N	NOR : L only REV : R only more than 30dB 1kHz B.P.F
3	Frequency Response		MTT-256	High : more than -3dB
				Low : more than -3dB
4	Wow & Flutter		MTT-111N	less than 0.2%
5	M.S. operation	To be Stopped	ITT-610	M.S. indicator should be turned on.
		To be not Stopped	ITT-607E	
6	DOLBY Operation B type		C-60 (No Recoding)	⏏ indicator should be tuned on. Output should be decreased.
7	PRE OUT Output		MTT-212N	more than 1V
8	Distortion		MTT-118N	less than 2%
9	Level difference from FM Level		MTT-212N	5 ± 3dB
10	Crosstalk		MTT-121N	1kHz B.P.F more than 45dB

9. BATTERY (BA501) Inspection

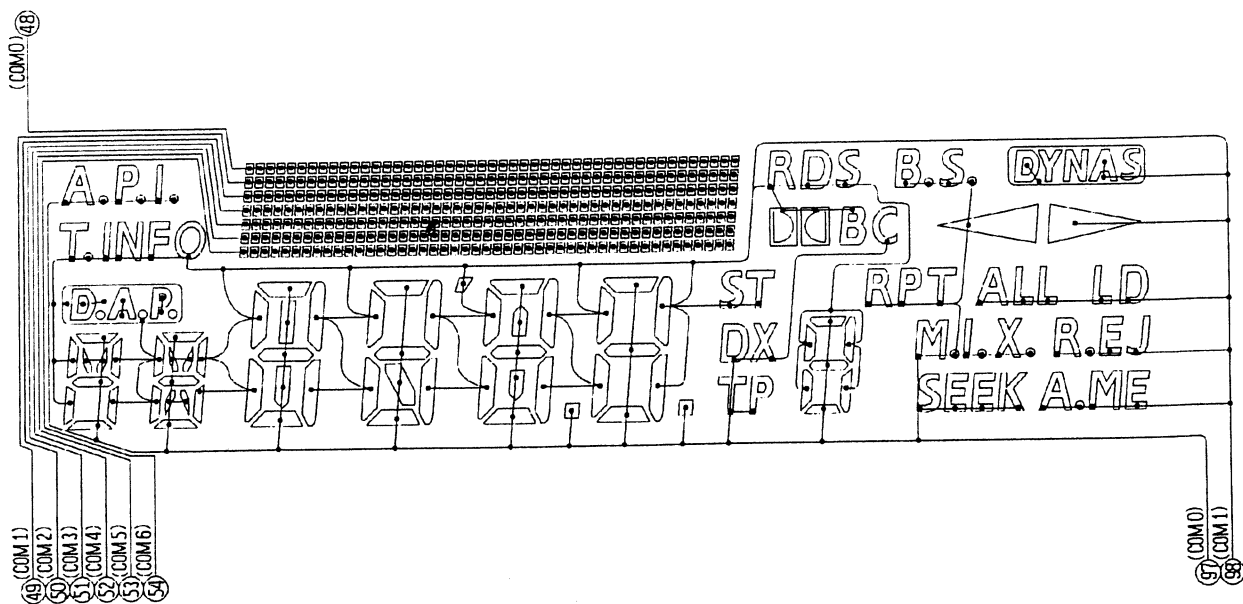
Step	Item		Spec
1	Voltage Check		more than 2.9V
2	Cautions on battery installation		Mount batteries and short-circuit the battery ground pattern and then allow a current to flow for more than 2 seconds within 10 minutes after the battery installation.

LCD Display

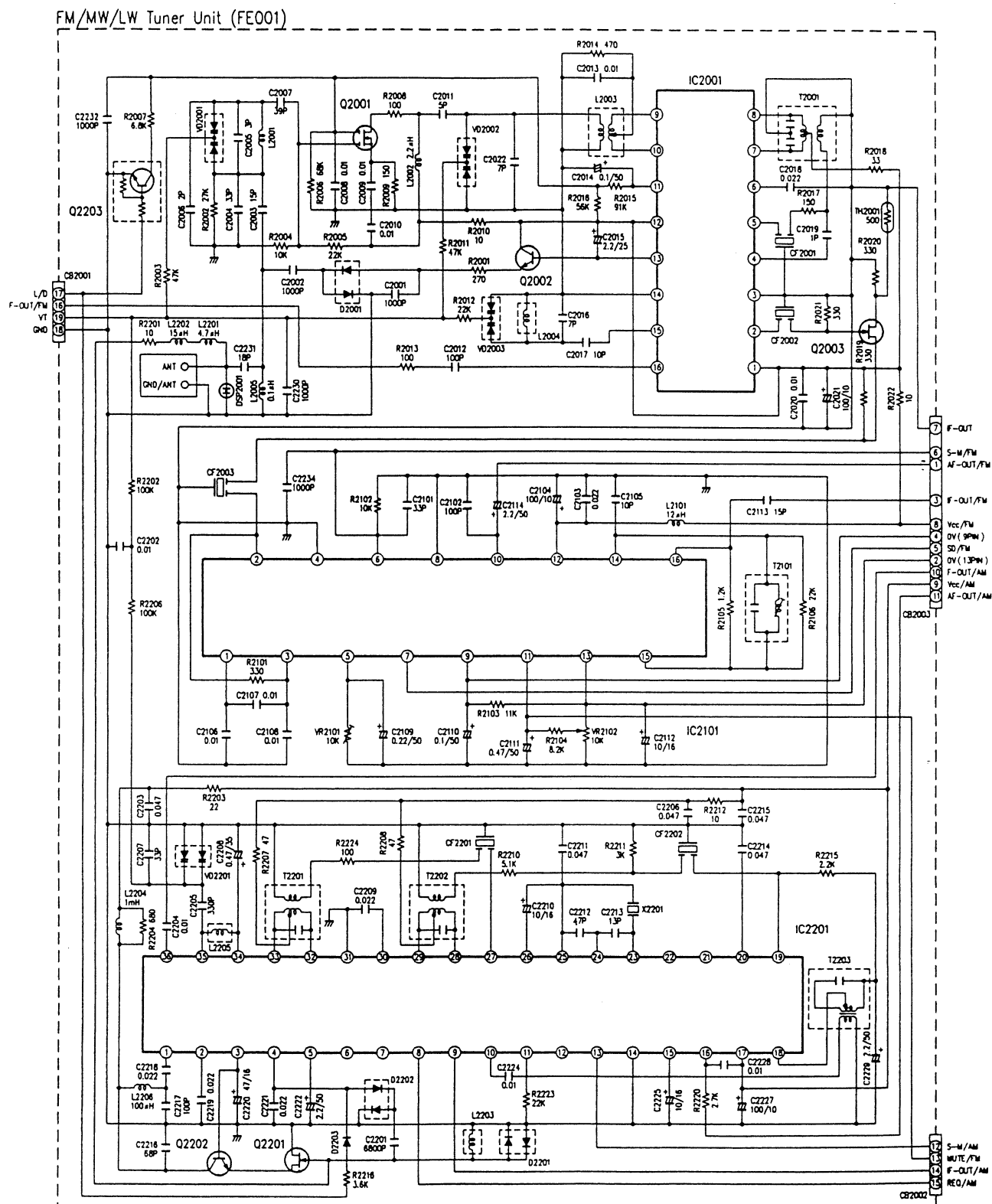
SEGMENT



COMMON

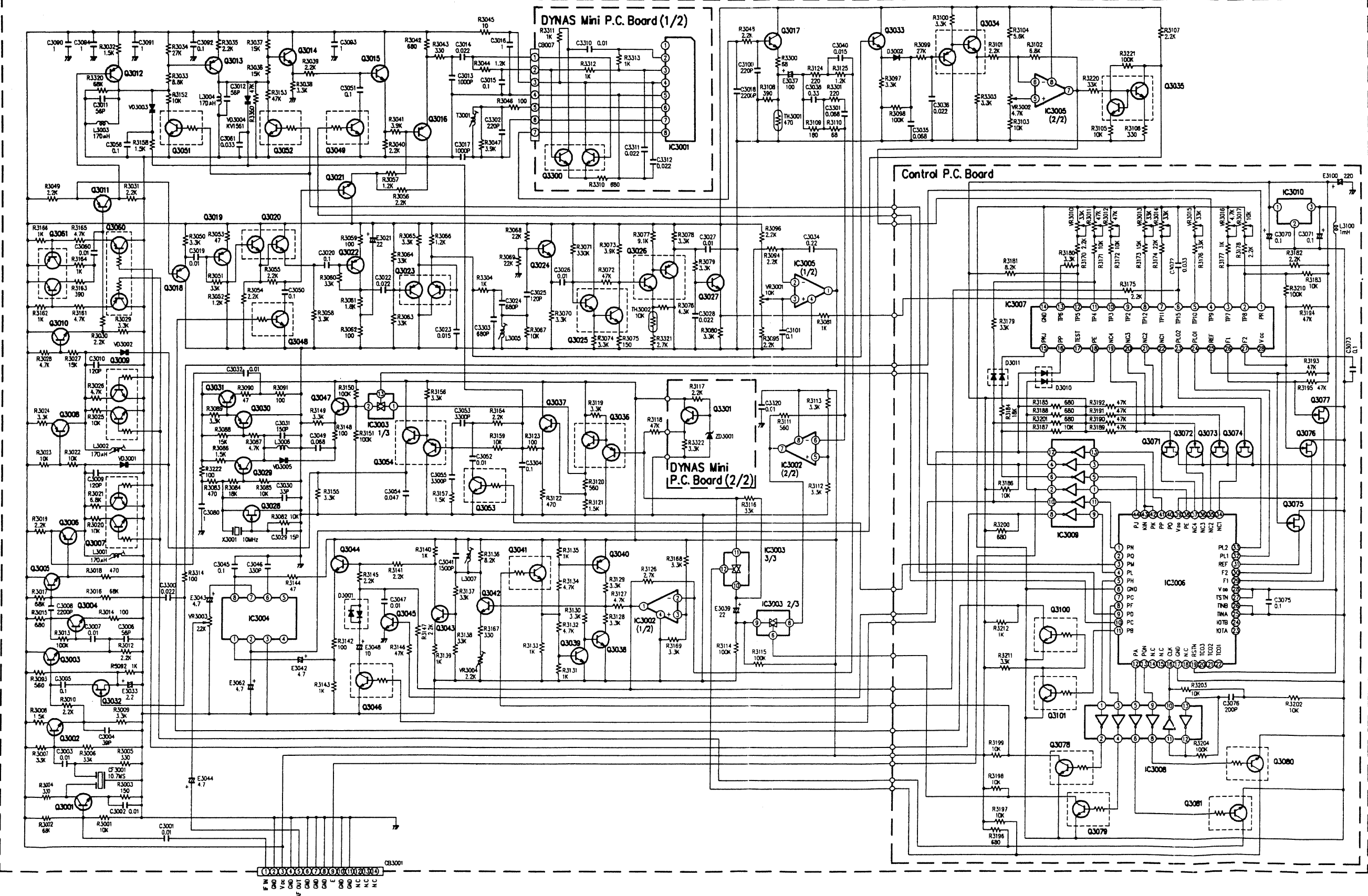


Tuner Schematic Diagram (FM/MW/LW Tuner Unit)

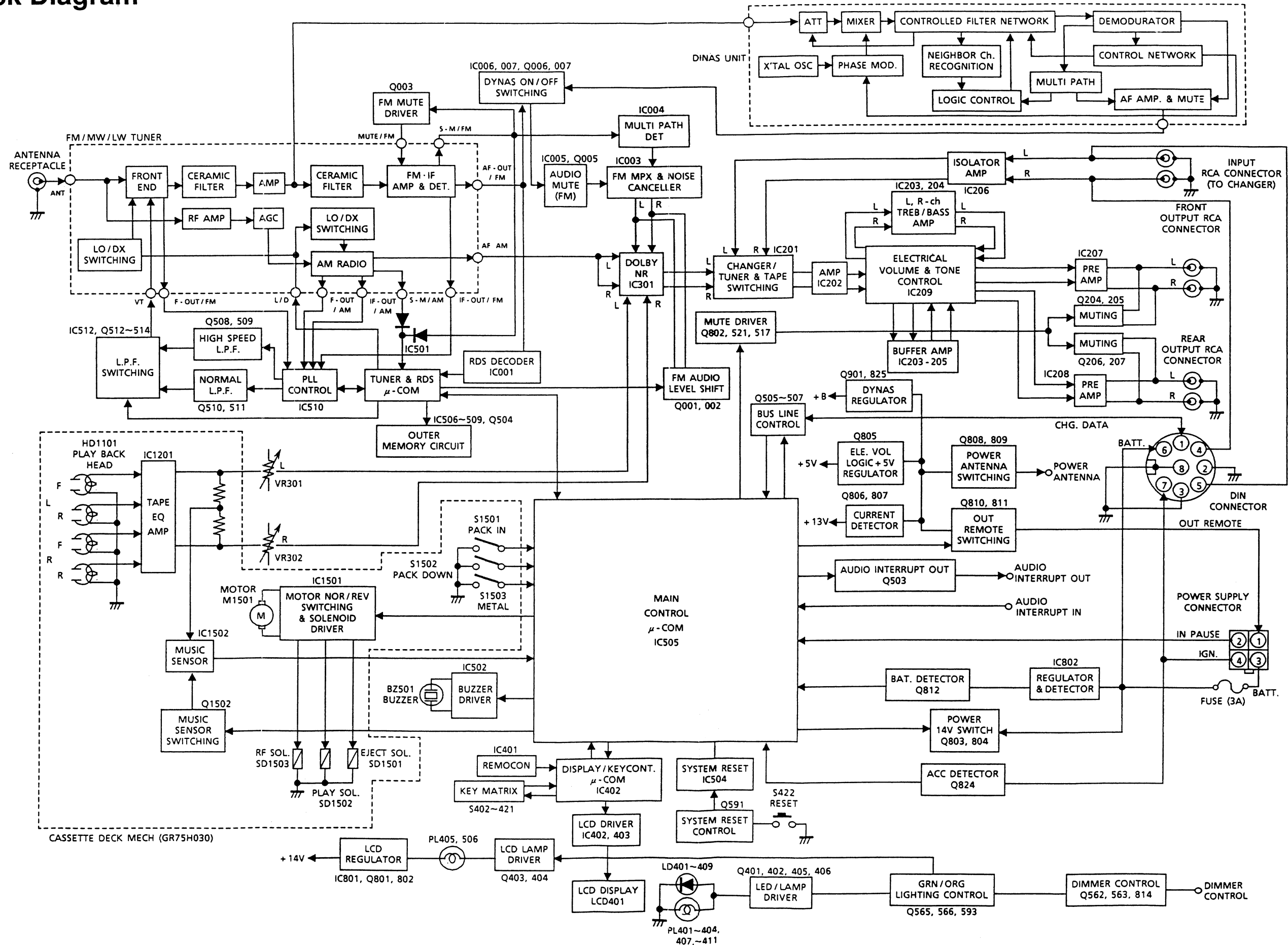


Tuner Schematic Diagram (DYNAS Unit)

DYNAS Unit (FE002)



Block Diagram



Parts Layout on P.C. Boards and Wiring Diagram (1/2)

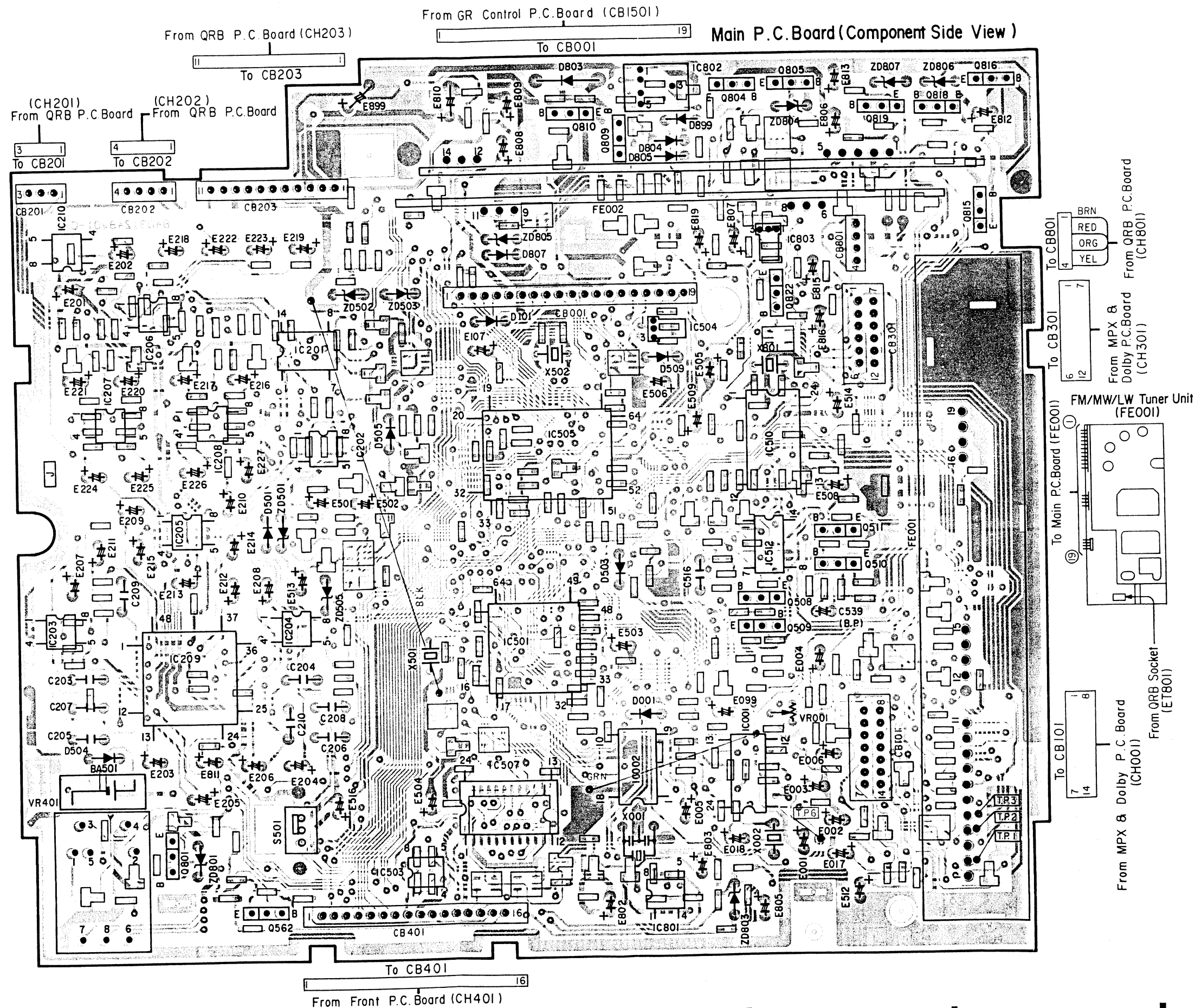
1

2

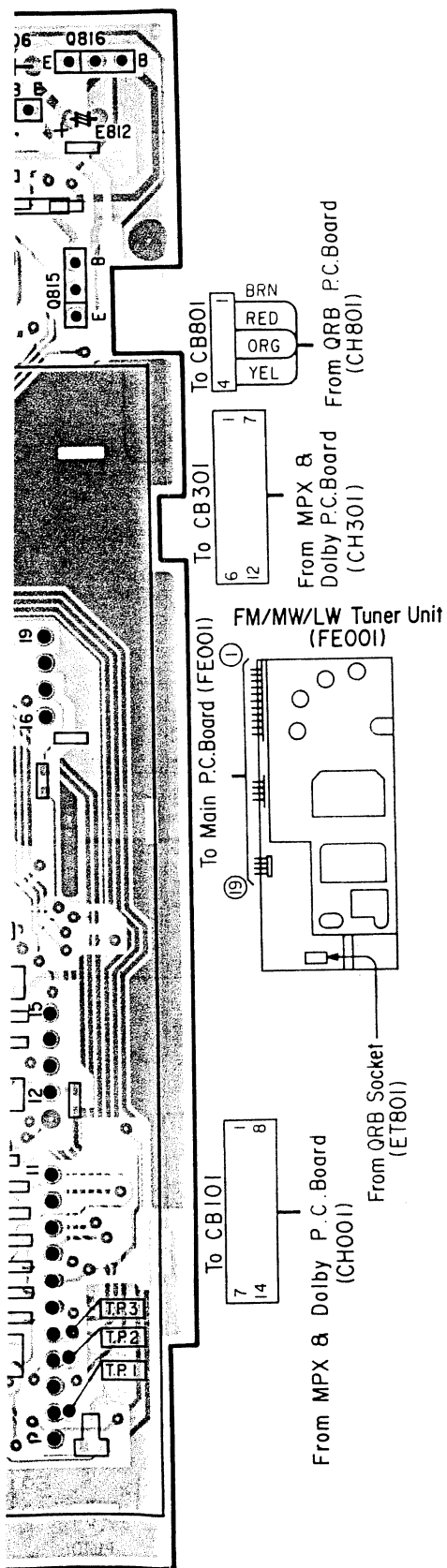
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4

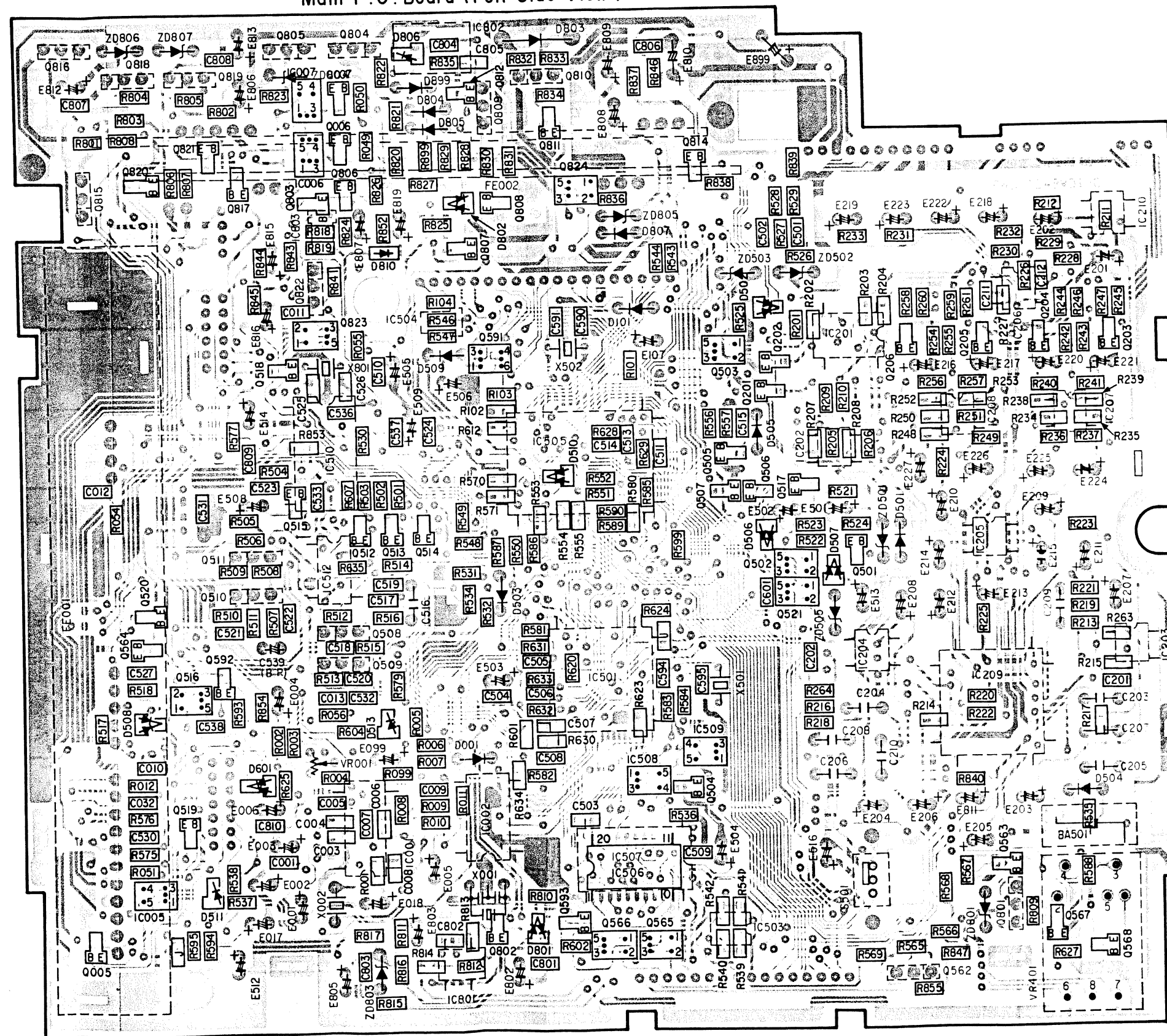
5



de View)



Main P.C. Board (Foil Side View)



Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

Parts Layout on P.C. Boards and Wiring Diagram (2/2)

All P.C. Boards viewed from soldered side.

1

2

3

4

5

A

B

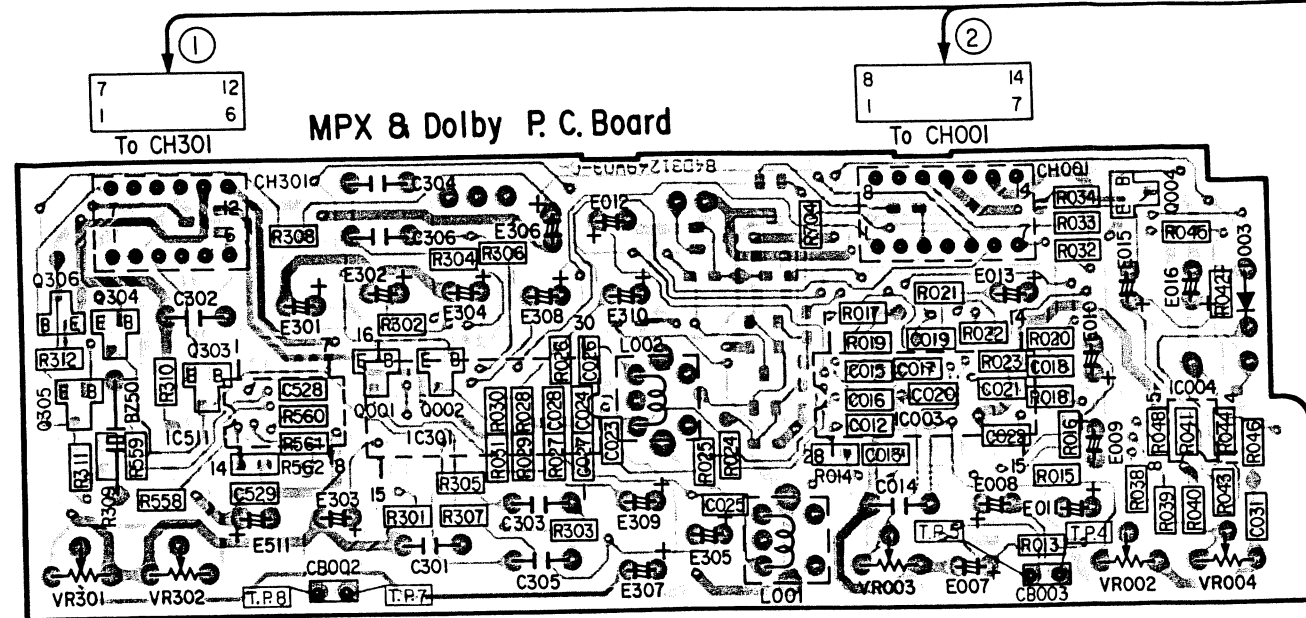
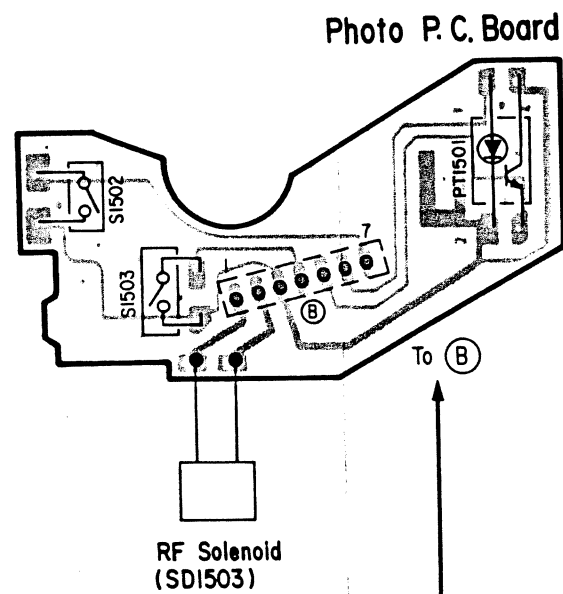
C

D

E

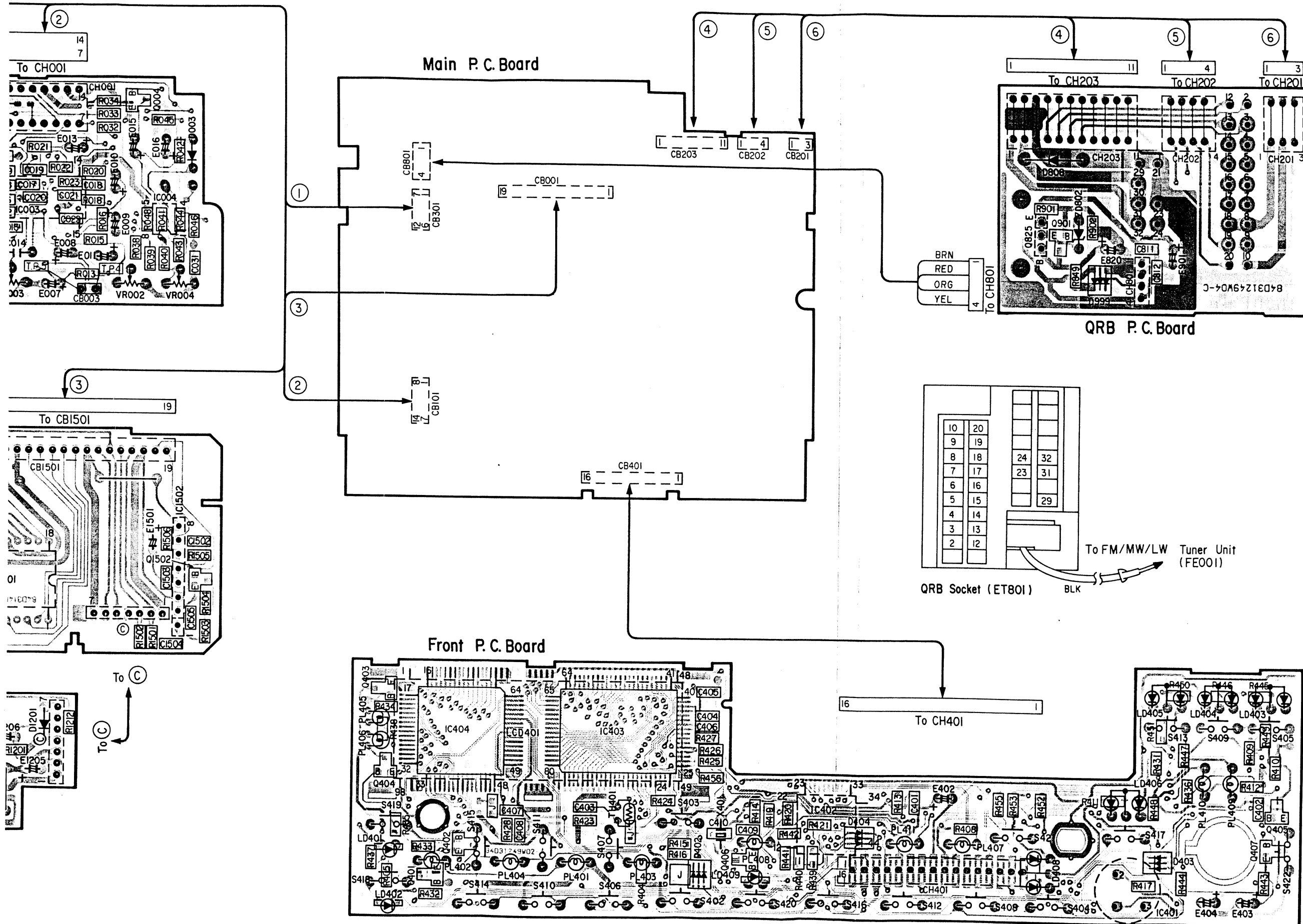
F

G

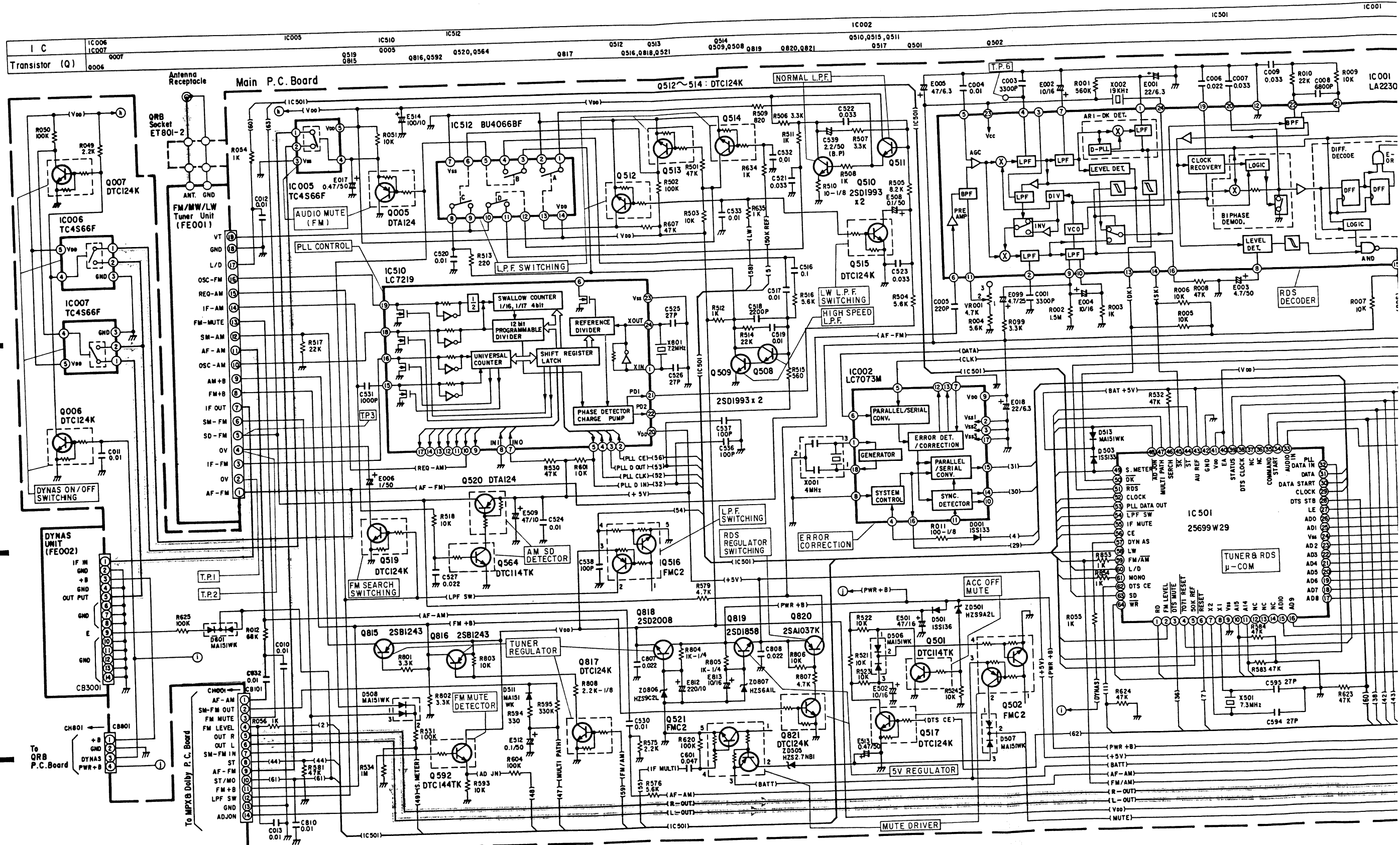


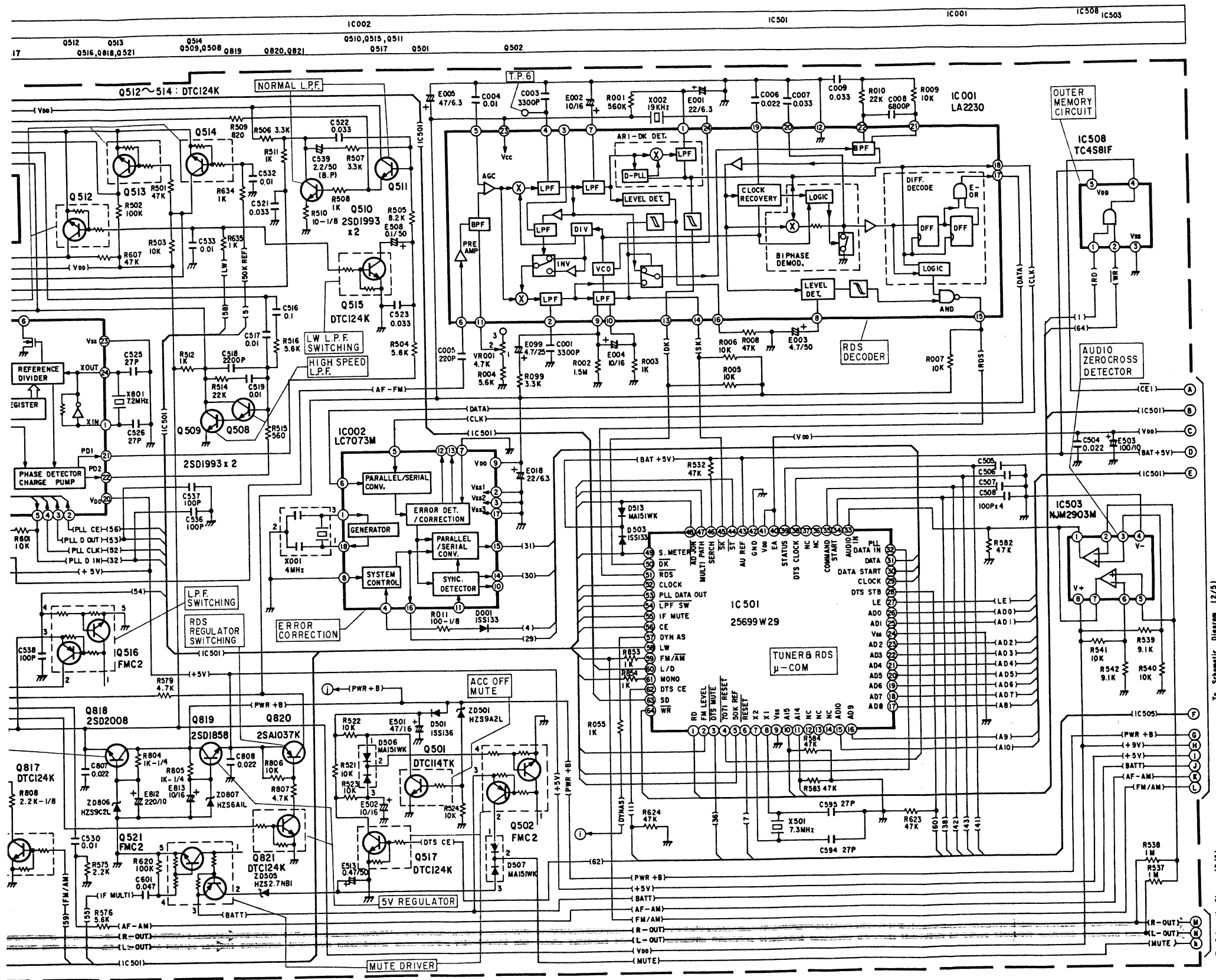
ewed from soldered side.

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern



Schematic Diagram (1/5)





IC001

1	1.5V	13	4.9V/8.7V	DK OFF/ON
2	1.4V	14	4.9V/8.7V	SK OFF/ON
3	0.6V	15	4.9V/8.7V	RDB OFF/ON
4	1.4V	16	0V	
5	2.3V	17	PS	
6	2.4V	18	2.4V	
7	2.7V	19	PS	
8	0.1V	20	1.1V	
9	1.4V	21	2.1V	
10	0V	22	2.1V	
11	0.7V	23	4.9V	
12	0V	24	3.9V	

IC005

1	2.5V		
2	2.5V		
3	0V		
4	9V/PS		OFF/ON
5	9V		

IC503

1	4.9V		
2	4.3V		
3	4.7V		
4	0V		
5	4.3V		
6	4.2V		
7	4.9V		
8	9V		

IC508

1	PS		
2	PS		
3	0V		
4	PS		
5	4.9V		

IC512

1	0.2V		8	0.7V
2	0V		9	3.3V
3	0.7V		10	3.3V
4	0.7V		11	3.2V
5	9.1V/8.7V	OFF/FM SEEK	12	8V/0V
6	0V/9V	OFF/AM ON	13	9V/0V
7	0V		14	OFF/LW

IC002

1	PS		
2	0V		
3	4.8V		
4	4.8V		
5	0V		
6	4.8V	RESET	
7	0V		
8	0V		
9	4.9V		
10	0V		
11	0V		
12	0V		
13	0V		
14	4.9V		
15	4.9V		
16	4.9V		
17	PS		
18	PS		
19	PS		
20	PS		
21	PS		
22	PS		
23	PS		
24	0V		
25	PS		
26	PS		
27	0V		
28	0V/PS		
29	PS		
30	PS		
31	PS		
32	PS		

IC510

1	PS		13	0V
2	PS		14	0V
3	PS		15	0V
4	PS		16	0V
5	PS		17	0V
6	0V		18	2.4V
7	4.9V		19	2.4V
8	0V		20	5V
9	0V		21	1.2V
10	0V/4.9V	OFF/AM SEEK	22	1.1V
11	0V		23	0V
12	0V		24	PS

IC506

1	2.4V/0V	DYNAS ON/OFF
2	2.4V/2.4V	DYNAS ON/OFF
3	0V/0V	DYNAS ON/OFF
4	8.1V/0V	DYNAS ON/OFF
5	9V/9V	DYNAS ON/OFF

IC007

1	0V/2.4V	DYNAS ON/OFF
2	2.4V/2.4V	DYNAS ON/OFF
3	0V/0V	DYNAS ON/OFF
4	0V/8.9V	DYNAS ON/OFF
5	9V/9V	DYNAS ON/OFF

IC005

	E	C	B	MODE		C	B	MODE
Q005	8.9V	0V	8.9V		Q517	0V	0V	4.8V
Q006	0V/0V	8.1V/0V	0V/4.6V	DYNAS ON/OFF	Q519	0V	0V	8.9V
Q007	0V/0V	0V/8.9V	8.1V/0V	DYNAS ON/OFF	Q520	4.9V	4.8V/0V	4.9V
Q501	5V	0V	0V		Q564	0V	4.9V	4.8V/0V
Q508	0.7V	0.7V/PS	1.2V/PS	OFF/LW	Q592	0V	9V	PS
Q509	0V	0.7V/PS	0.7V	OFF/LW	Q815	9V	0.5V	9V
Q510	0V	3.2V/1.9V	0.6V	OFF/LW	Q816	9V	9V	8.4V
Q511	0.6V	8.9V	1.2V/1.1V	OFF/LW	Q817	0V	8.9V	0V
Q512	0V	8.9V/0V	0V/4.5V	OFF/LW	Q818	8.9V	13.4V	9.5V
Q513	0V	0V/8.8V	3V/0V	OFF/AP1	Q819	4.9V	13.4V	5.5V
Q514	0V	8V/0V	0V/4.6V	OFF/AP1	Q820	4.9V	4.8V/0V	4.2V/4.9V
Q515	0V	0V	4.5V		Q821	0V	0V/4.9V	8.9V/0.6V

IC512

	1	2	3	4	5	MODE
Q502	13.5V/0V	0V/13.5V	13.4V	0V/5.2V	0V	MUTE OFF/ON
Q516	8.9V	0V	0V	4.8V	8.9V	
Q521	13.5V	0V	13.5V	0V	0V	

(Measuring Conditions)

- Power Supply Voltage: DC14.4V
- Measuring Meter: Digital Voltmeter
- Measuring Point Reference: Between GND
- Measuring Conditions: TAPE: No Bias Tape
- FM: 98.1MHz (No Signal Input)
- MW: 999KHz (No Signal Input)
- LW: 216KHz (No Signal Input)

To Schematic Diagram (12/5)

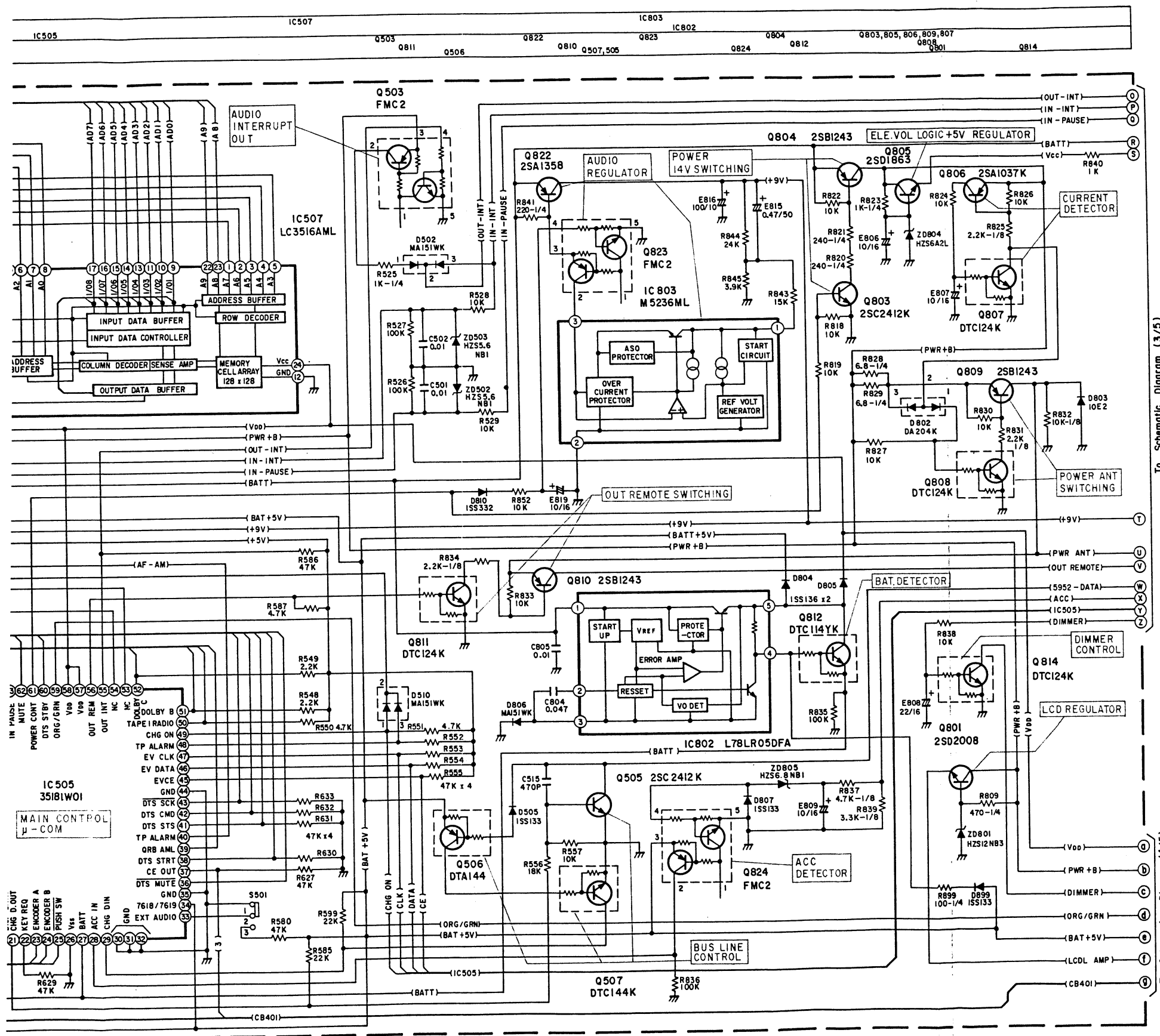
To Schematic Diagram (13/5)

NOTES:

- All resistance values are in ohms. K = 1,000
- All capacitance values are in microfarads. P = 1,000,000

1
2
3
4
5





IC505

1	0.2V/PS	OFF/PLAY	17	PS		33	0V/4.9V	OFF/ON	49	0V	
2	0V/4.9V	PACON(PPOK-IN)	18	PS		34	0V		50	4.2V/0V	T/R
3	0V/4.8V	OFF/PLAY	19	PS		35	0V		51	4.6V/0V	OFF/DOL-B
4	0V/4.8V	FF-REW/OFF/ON	20	PS		36	4.8V/0V	OFF/ON	52	4.6V/0V	OFF/DOL-C
5	0V/4.8V	EJECT OFF/ON	21	PS		37	4.8V		53	0V	
6	0V/4.8V	REW/FF	22	0V		38	PS		54	0V	
7	4.8V	RESET	23	4.9V/PS	OFF/CW	39	0V/PS	OFF/ALM	55	0V/1.9V	OFF/ON
8	PS		24	4.9V/PS	OFF/CCW	40	0V/PS	OFF/ALM	56	4.2V	
9	PS		25	4.9V/0V	OFF/MODE	41	PS		57	4.8V	
10	0V/4.8V	FF-REW/OFF/ON	26	0V		42	PS		58	4.8V	
11	4.8V		27	4.8V		43	PS		59	0V/4.8V	G/A
12	4.8V		28	4.8V		44	0V		60	0V/PS	
13	0V/4.8V	R/F	29	PS		45	PS		61	4.8V	
14	4.9V	RACK-IN	30	0V		46	PS		62	0V	
15	4.9V	METAL	31	0V		47	PS		63	0V/5.2V	OFF/IN-PAUSE
16	PS		32	0V		48	2.8V		64	0V/5.2V	OFF/IN-INT

IC504

1	4.9V
2	4.8V
3	0V

IC506

1	0V	11	0V
2	PS	12	PS
3	PS	13	PS
4	PS	14	PS
5	PS	15	PS
6	PS	16	PS
7	PS	17	PS
8	PS	18	PS
9	PS	19	PS
10	0V	20	4.9V

IC507

1	PS	13	PS
2	PS	14	PS
3	PS	15	PS
4	PS	16	PS
5	PS	17	PS
6	PS	18	PS
7	PS	19	PS
8	PS	20	PS
9	PS	21	PS
10	PS	22	PS
11	PS	23	PS
12	PS	24	4.9V

IC509

1	PS
2	PS
3	0V
4	PS
5	4.9V

IC802

1	1.34V
2	6.4V
3	0.5V
4	5.4V
5	5.6V
1	1.2V
2	0V
3	12.7V

	E	C	B	MODE		E	C	B	MODE
Q504	0V	PS	PS		Q805	5.3V	13.4V	5.6V	
Q505	0V	PS	PS		Q806	13.4V	0V	13.4V	
Q506	5V	PS	PS		Q807	0V	13.4V	0V	
Q507	0V	PS	PS		Q808	0V	0V	9.4V	
Q518	0V	4.6V/0V	0V/3.2V	FM/CD	Q809	13.3V	13.3V	12.3V	
Q567	0V	4.9V	0V		Q810	13.3V	13.3V	12.3V	
Q568	0V	4.9V	0V		Q811	0V	0.04V	4.2V	
Q801	11.6V	13.3V	12.2V		Q812	4.8V	5.6V	5.4V	
Q803	0V	0.1V	0.7V		Q814	0V	9.1V/0V	0V/9.7V	DIMM OFF/ON
Q804	13.5V	13.4V	12.8V		Q822	13.5V	8.9V	12.8V	

	1	2	3	4	5	6	MODE
Q503	13.2V/0V	0V/13.2V	13.2V	0V/1.9V	0V		MUTE OFF/ON
Q591	4.8V	4.8V	4.8V	0V	0V	0V	
Q823	0V	12.8V	12.8V	3V	0V		
Q824	0V	4.9V	4.9V	6.2V	0V		

[Measuring Conditions]

Power Supply Voltage : DC14.4V

Measuring Meter : Digital Voltmeter

Measuring Point Reference : Between GND

Measuring Conditions : TAPE : No Bias Tape

FM : 98.1MHz (No Signal Input)

MW : 999KHz (No Signal Input)

LW : 216KHz (No Signal Input)

NOTES:

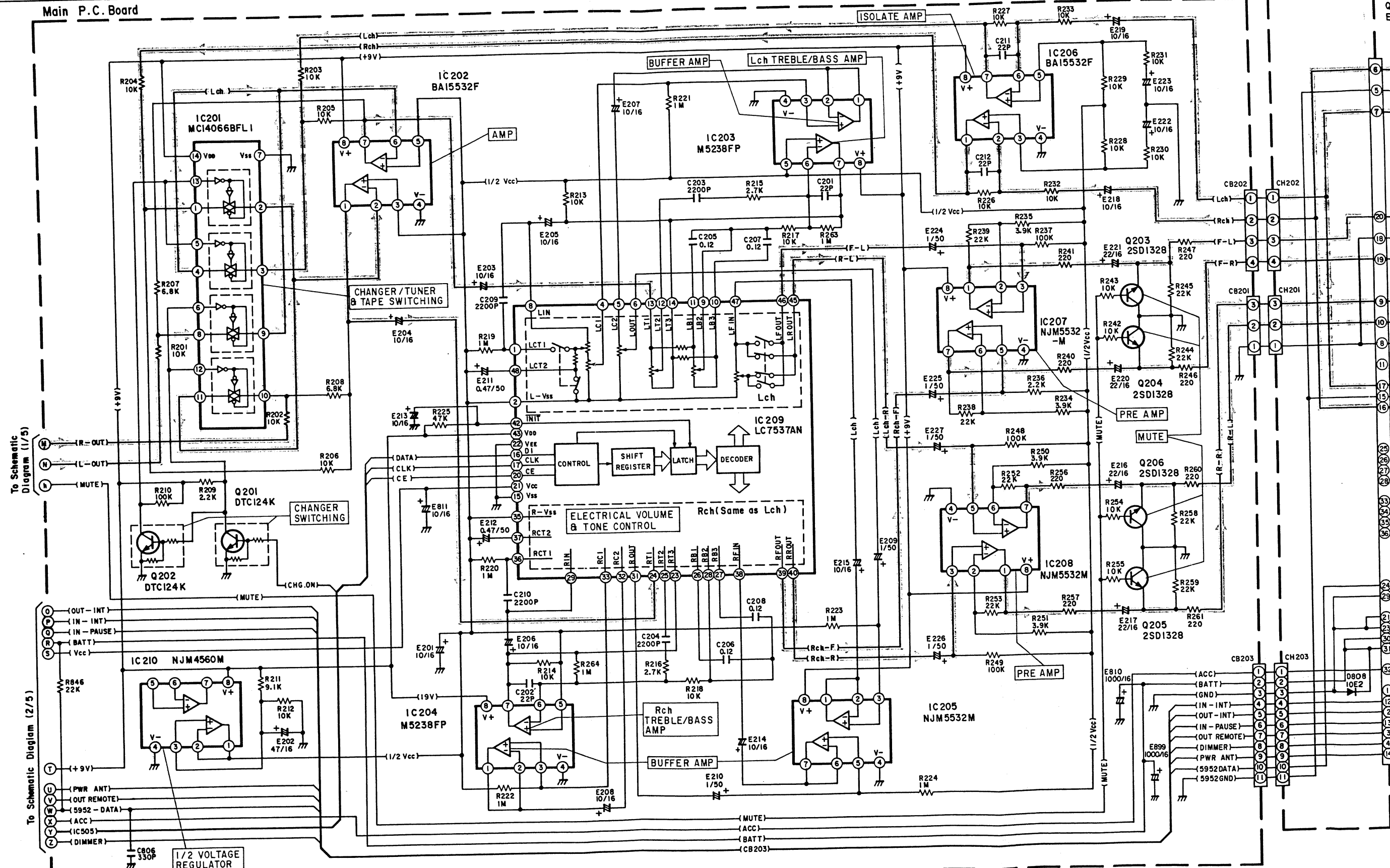
- All resistance values are in ohms. K = 1,000
- All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Schematic Diagram (3/5)

IC	IC201	IC202	IC203	IC205	IC206
Transistor (Q)	Q202	Q201	Q203	Q204	Q205, 206, 207

Main P.C. Board

QRB P.C. Board (1/5)



To Schematic Diagram (1/5)

To Schematic Diagram (2/5)

To Schematic Diagram (3/5)

To Schematic Diagram (4/5)

To Schematic Diagram (5/5)

To Schematic Diagram (6/5)

To Schematic Diagram (7/5)

To Schematic Diagram (8/5)

To Schematic Diagram (9/5)

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To Schematic Diagram (240/5)

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To Schematic Diagram (243/5)

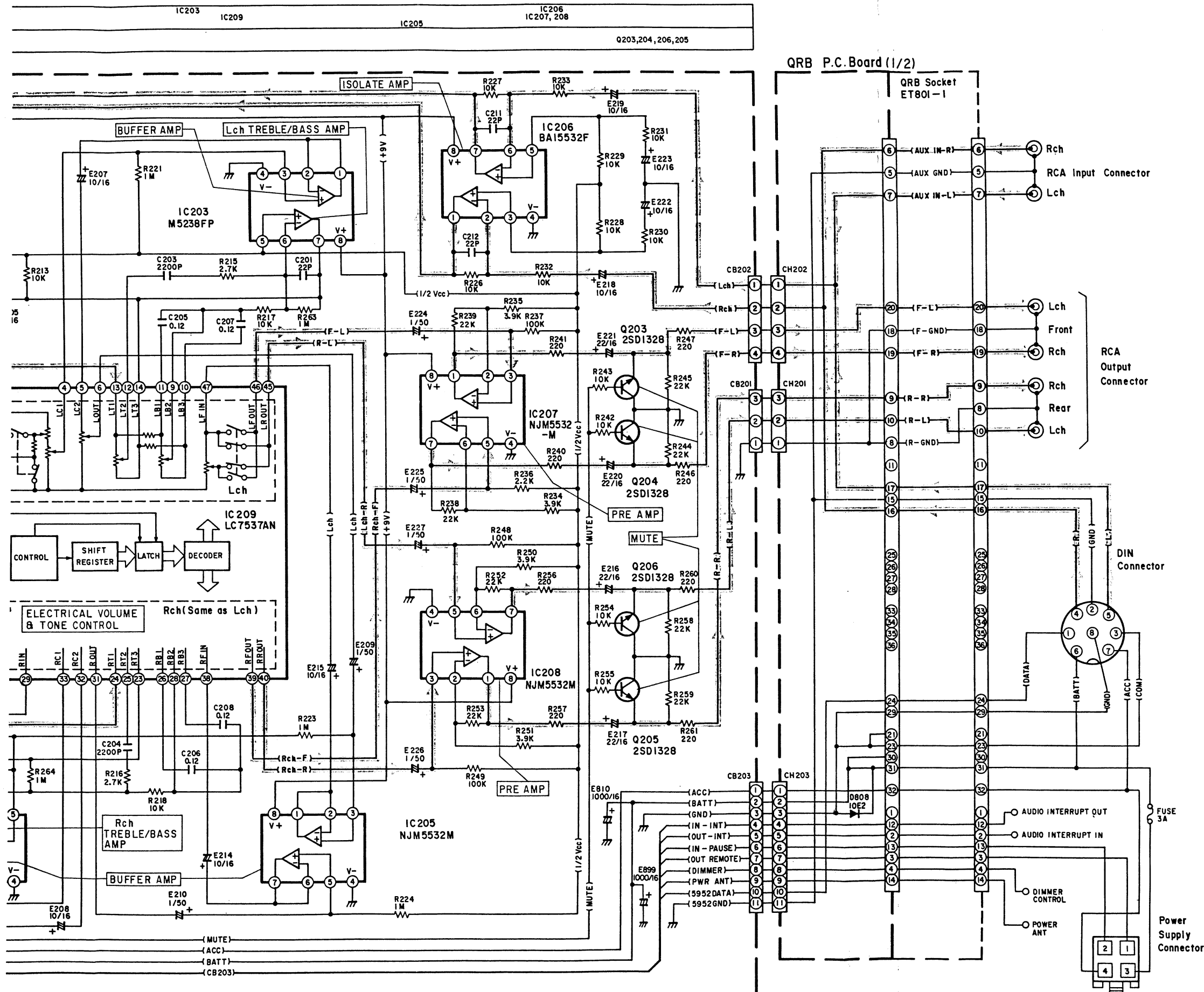
To Schematic Diagram (244/5)

To Schematic Diagram (245/5)

To Schematic Diagram (246/5)

To Schematic Diagram (247/5)

To Schematic Diagram (248/5)



IC201			IC202			IC203		
1	4.7V		1	4.8V		1	4.6V	
2	4.7V		2	4.6V		2	4.6V	
3	4.7V		3	4.6V		3	4.6V	
4	4.7V		4	0V		4	0V	
5	0V/8.8V	CHANGER OFF/ON	5	4.6V		5	4.6V	
6	8.1V/0V	Others OFF/ON	6	4.7V		6	4.6V	
7	0V		7	4.8V		7	4.6V	
8	4.6V		8	8.9V		8	8.9V	
9	4.6V							
10	4.6V							
11	4.6V							
12	8.1V/0V	Others OFF/ON						
13	0V/8.8V	CHANGER OFF/ON						
14	8.9V							

IC206	IC207	IC208	IC210
1 4.6V	1 4.5V	1 4.5V	1 4.6V
2 4.6V	2 4.6V	2 4.6V	2 4.6V
3 4.6V	3 4.6V	3 4.6V	3 4.6V
4 0V	4 0V	4 0V	4 0V
5 4.6V	5 4.6V	5 4.6V	5 3.5V
6 4.6V	6 4.6V	6 4.6V	6 3.3V
7 4.6V	7 4.5V	7 4.5V	7 8.5V
8 8.9V	8 8.9V	8 8.9V	8 8.9V

IC209							
1	4.2 V	13	4.6 V	25	4.6 V	37	4.6 V
2	4.6 V	14	4.6 V	26	4.6 V	38	4.6 V
3	0 V	15	0 V	27	4.6 V	39	0 V
4	4.6 V	16	0 V	28	4.6 V	40	4.6 V
5	4.6 V	17	0 V	29	4.6 V	41	0 V
6	4.6 V	18	0 V	30	0 V	42	8.8 V
7	0 V	19	8.9 V	31	4.6 V	43	8.9 V
8	4.6 V	20	0 V	32	4.6 V	44	0 V
9	4.6 V	21	5.3 V	33	4.6 V	45	4.6 V
10	4.6 V	22	0 V	34	0 V	46	4.6 V
11	4.6 V	23	4.6 V	35	0 V	47	4.6 V
12	4.6 V	24	4.6 V	36	4.2 V	48	4.6 V

	E	C	B	MODE
Q201	0V	8.1V/0V	0V/3.7V	CHANGER OFF/ON
Q202	0V	0V/8.8V	8.1V/0V	CHANGER OFF/ON
Q203	0V	0V	0.7V	
Q204	0V	0V	0.7V	
Q205	0V	0V	0.7V	
Q206	0V	0V	0.7V	

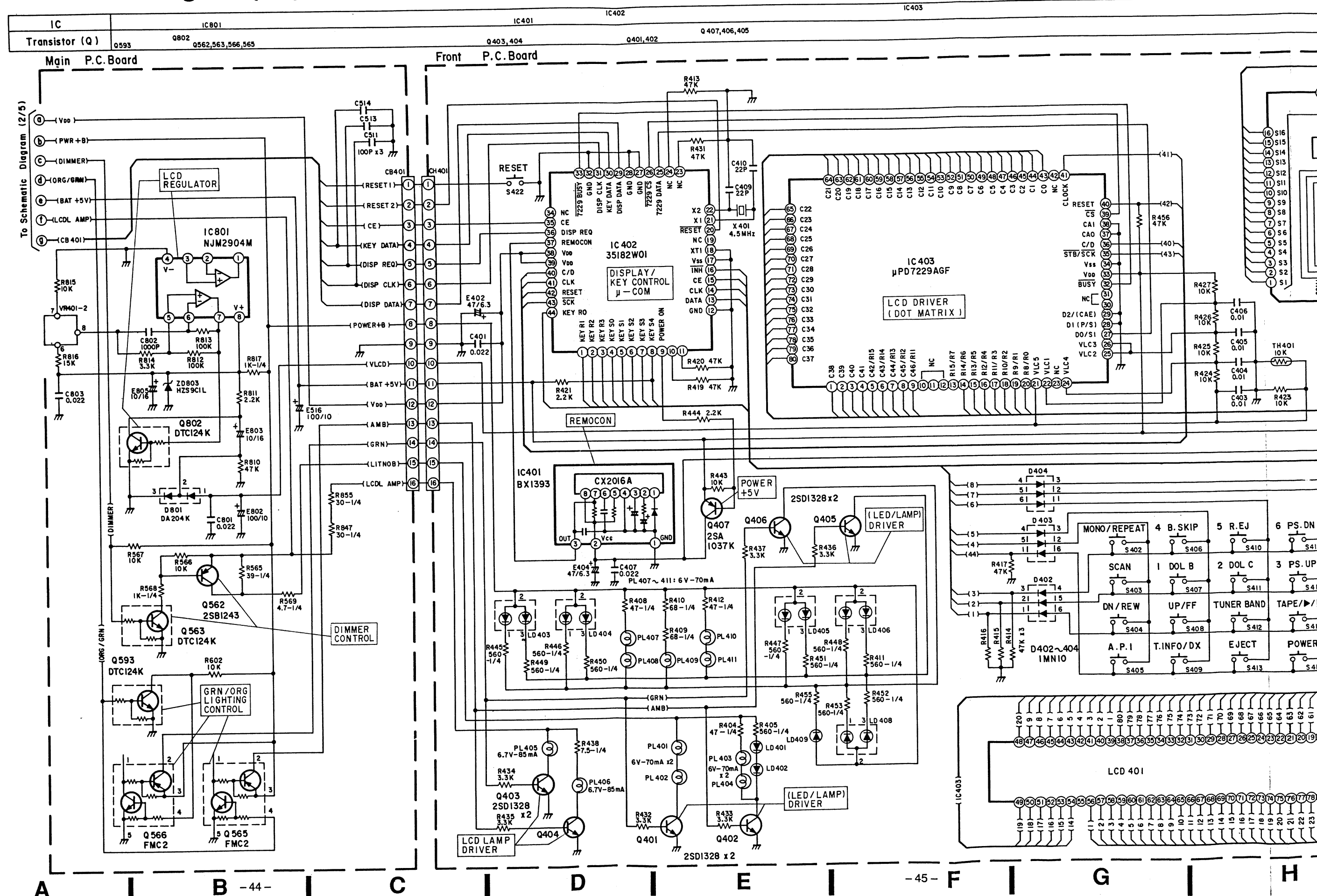
[Measuring Conditions]

- Power Supply Voltage :DC14.4V
 - Measuring Meter :Digital Voltmeter
 - Measuring Point Reference :Between GND
 - Measuring Conditions :TAPE :No Bias Tape
- FM : 98.1MHz (No Signal Input)
 MW : 999KHz (No Signal Input)
 LW : 216KHz (No Signal Input)

NOTES:

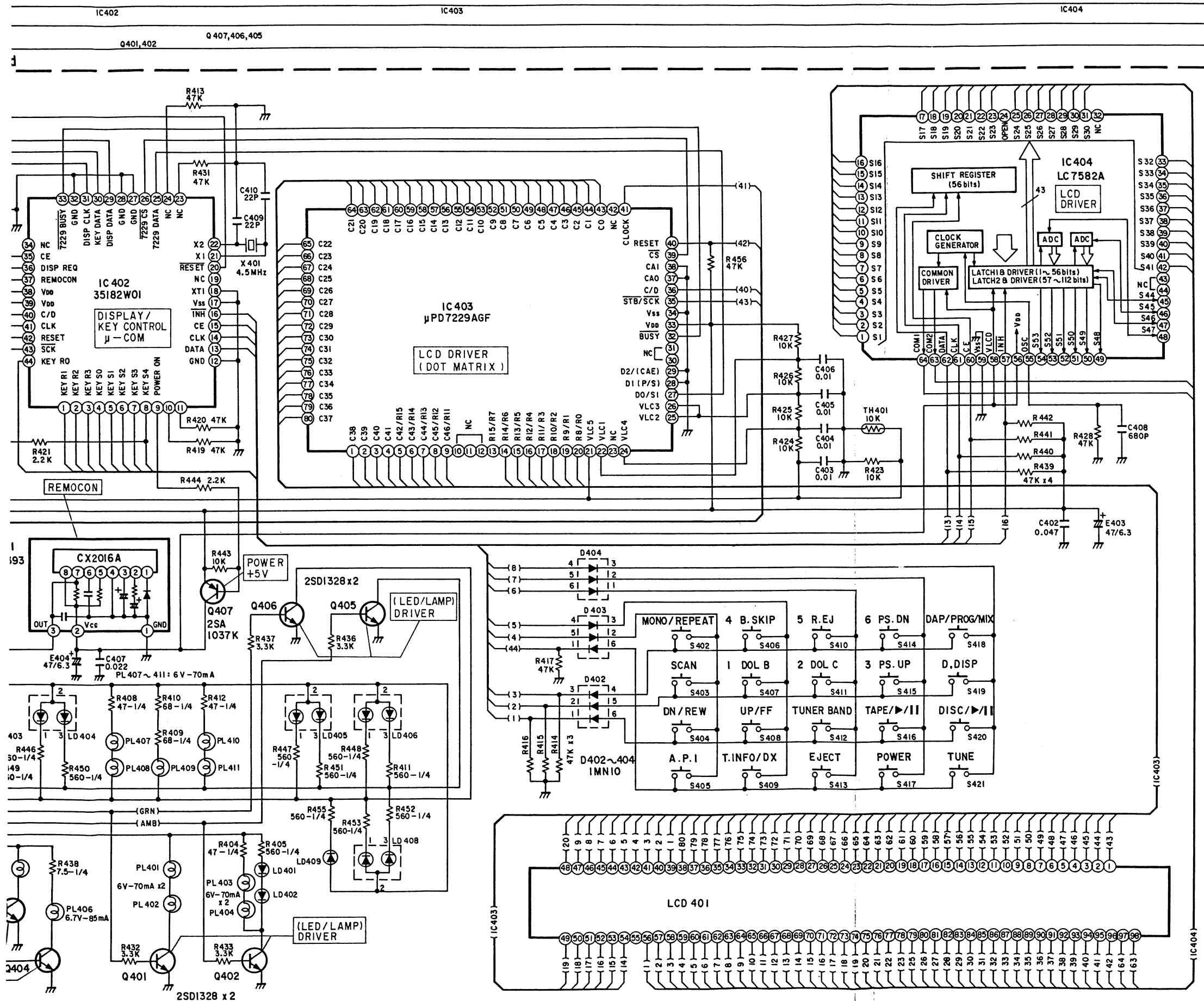
1. All resistance values are in ohms. $K = 1,000$
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (4/5)



7619R

7619R



NOTES:

1. All resistance values are in ohms. $K = 1,000$
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

IC402

1 PS	23 PS
2 PS	24 PS
3 PS	25 PS
4 PS	26 PS
5 PS	27 PS
6 PS	28 PS
7 PS	29 PS
8 PS	30 PS
9 0.1 V	31 PS
10 PS	32 PS
11 PS	33 PS
12 PS	34 PS
13 PS	35 PS
14 PS	36 PS
15 PS	37 PS
16 PS	38 PS
17 PS	39 PS
18 PS	40 PS
19 PS	41 PS
20 PS	42 PS
21 PS	43 PS
22 PS	44 PS

IC401

1 0V
2 4.9V
3 PS

IC404

1 PS	23 PS	45 PS
2 PS	24 PS	46 PS
3 PS	25 PS	47 PS
4 PS	26 PS	48 PS
5 PS	27 PS	49 PS
6 PS	28 PS	50 PS
7 PS	29 PS	51 PS
8 PS	30 PS	52 PS
9 PS	31 PS	53 PS
10 PS	32 PS	54 PS
11 PS	33 PS	55 PS
12 PS	34 PS	56 4.9V
13 PS	35 PS	57 PS
14 PS	36 PS	58 4.9V
15 PS	37 PS	59 PS
16 PS	38 PS	60 PS
17 PS	39 PS	61 PS
18 PS	40 PS	62 PS
19 PS	41 PS	63 PS
20 PS	42 PS	64 PS
21 PS	43 PS	
22 PS	44 PS	

IC403

1 PS	28 PS	55 PS
2 PS	29 PS	56 PS
3 PS	30 PS	57 PS
4 PS	31 PS	58 PS
5 PS	32 PS	59 PS
6 PS	33 4.9V	60 PS
7 PS	34 PS	61 PS
8 PS	35 PS	62 PS
9 PS	36 PS	63 PS
10 PS	37 PS	64 PS
11 PS	38 PS	65 PS
12 PS	39 PS	66 PS
13 PS	40 0.1 V	67 PS
14 PS	41 PS	68 PS
15 PS	42 PS	69 PS
16 PS	43 PS	70 PS
17 PS	44 PS	71 PS
18 PS	45 PS	72 PS
19 PS	46 PS	73 PS
20 PS	47 PS	74 PS
21 1.5 V	48 PS	75 PS
22 3.3 V	49 PS	76 PS
23 PS	50 PS	77 PS
24 0.1 V	51 PS	78 PS
25 1.7 V	52 PS	79 PS
26 1.7 V	53 PS	80 PS
27 PS	54 PS	

IC801

1 NC
2 NC
3 NC
4 0V
5 PS
6 PS
7 PS
8 8.6V

	E	C	B	MODE
Q562	11.5V	11.5V/9.2V	10.8V/11.5V	DIMM OFF/ON
Q563	0V	0V/11.5V	9.2V/0V	DIMM OFF/ON
Q593	0V	9V/0V	0V/4.8V	GRN/ORG
Q802	0V	PS	PS	
Q401	0V	11.2V/0.1V	0V/0.8V	GRN/ORG
Q402	0V	11.2V/0.1V	0V/0.8V	ORG/GRN
Q403	0V	11.2V/0.1V	0V/0.8V	GRN/ORG
Q404	0V	11.2V/0.1V	0V/0.8V	ORG/GRN
Q405	0V	11.2V/0.1V	0V/0.8V	ORG/GRN
Q406	0V	11.2V/0.1V	0V/0.8V	GRN/ORG
Q407	4.9V	4.9V	4.2V	

(Measuring Conditions)

Power Supply Voltage : DC14.4V

Measuring Meter : Digital Voltmeter

Measuring Point Reference : Between GND

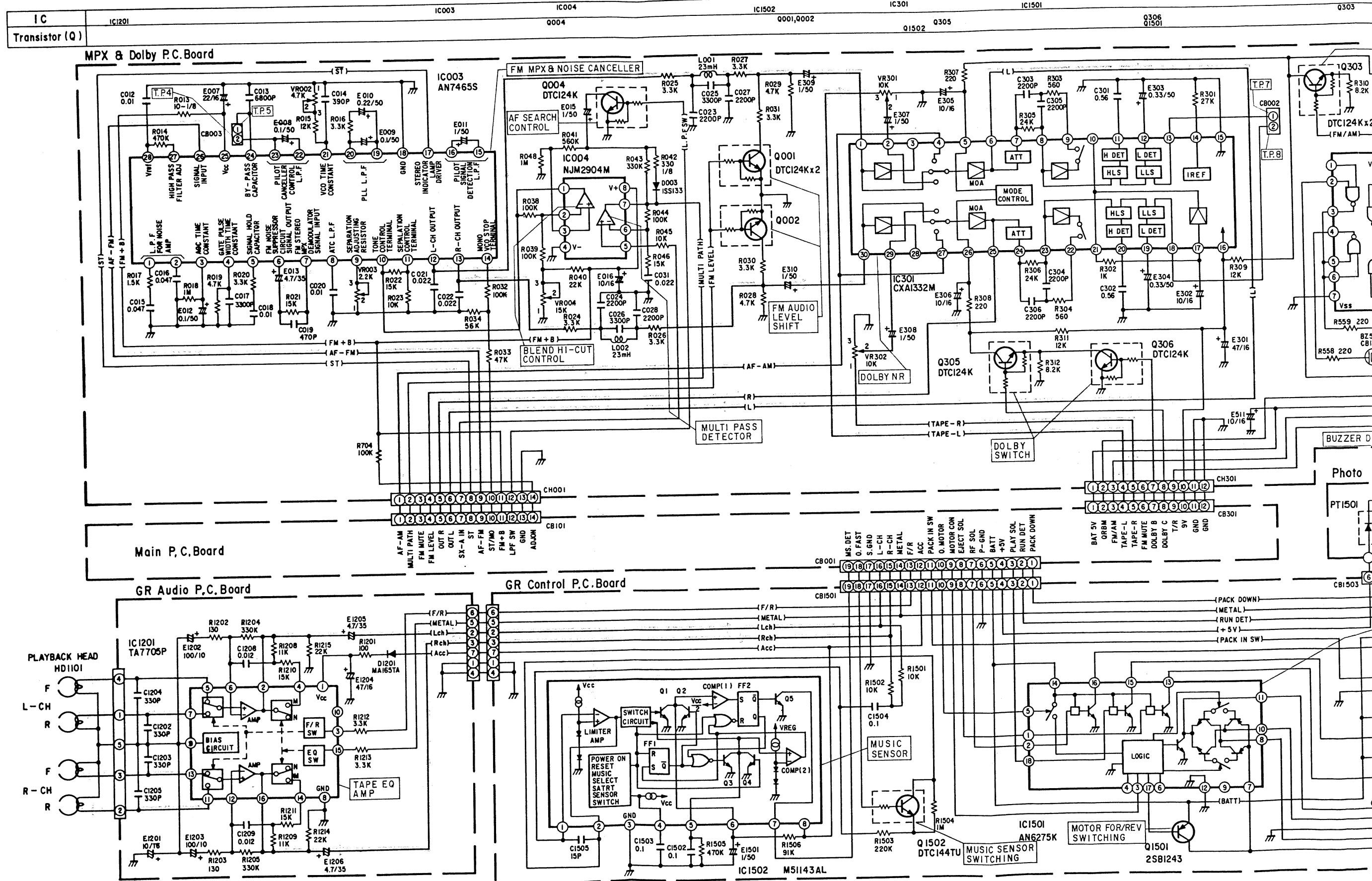
Measuring Conditions : TAPE : No Bias Tape

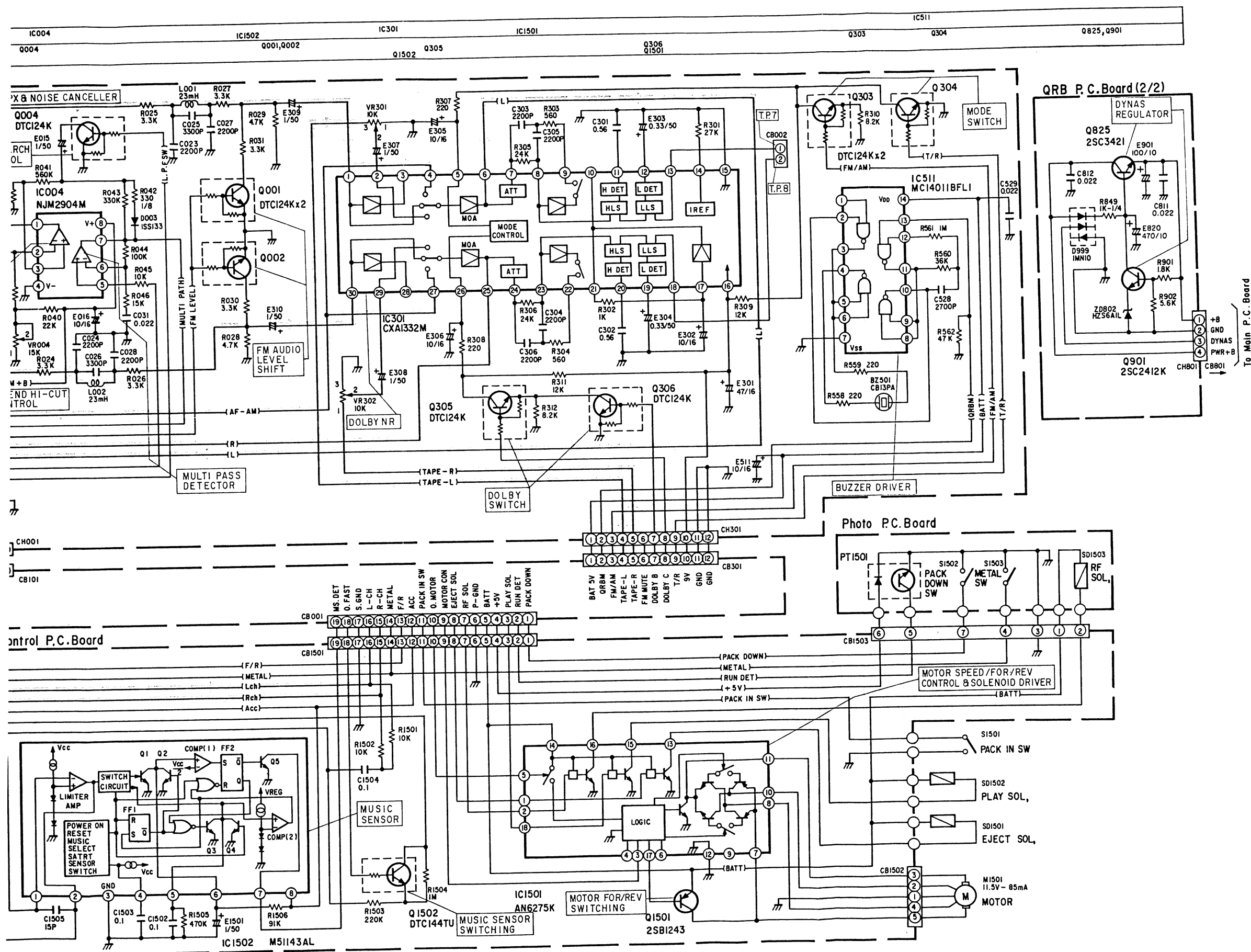
FM : 98.1MHz (No Signal Input)

MW : 999KHz (No Signal Input)

LW : 216KHz (No Signal Input)

Schematic Diagram (5/5)





IC004		IC003				
1	5.1 V	1	2.5 V	15	PS	
2	2.6 V	2	1.8 V	16	PS	
3	2.6 V	3	1.4 V	17	0.6 V	ST
4	0 V	4	0 V	18	0 V	
5	5.2 V	5	2.5 V	19	2.5 V	
6	5.2 V	6	1.3 V	20	2.5 V	
7	5.2 V	7	1.2 V	21	1.4 V	
8	8.9 V	8	1.9 V	22	2.5 V	
		9	0.2 V	23	2.5 V	
		10	5 V	24	2.5 V	
		11	2 V	25	8.8 V	
		12	2.6 V	26	2.5 V	
		13	2.6 V	27	2.4 V	
		14	0 V	28	2.5 V	

IC301			
1	4.5V		16 9V
2	4.5V		17 4.5V
3	4.5V		18 4.5V
4	0V/52V/8V	T/R FM/AM	19 0.4V
5	4.5V		20 0.4V
6	4.5V		21 4.5V
7	4.5V		22 4.5V
8	4.5V		23 4.5V
9	4.5V		24 4.5V
10	4.5V		25 4.5V
11	0V		26 0V/42V/8V
12	0.4V		27 4.5V
13	4.5V		28 4.5V
14	1.3V		29 4.5V
15	0V		30 4.5V

1	1.9 V	8	4.9 V
2	0 V	9	4.9 V
3	4.9 V	10	0 V
4	0 V	11	4.9 V
5	4.9 V	12	4.4 V
6	4.9 V	13	0 V
7	0 V	14	4.9 V

1	1.41 V
2	1.38 V
3	0 V
4	1.31 V
5	0.02 V
6	0.02 V
7	0.05 V
8	14.01 V

IC1501	
1	0
2	0
3	5
4	0
5	5
6	
7	1
8	8
9	N

V	10	13.9 V
V	11	8.1 V
1 V	12	0 V
V	13	14 V
1 V	14	14 V
	15	0.2 V
3.9 V	16	14 V
2 V	17	13.2 V

	E	C	B	MODE
Q001	0V	1.1 V	0V	
Q002	0 V	1.1 V	0 V	
Q004	0V	0V	9V	
Q303	2.8V/0V	5.2V/8.2V	4V/0V	FM/AM
Q304	0V	5.2V/0V	0V/4.2V	
Q305	0V	0V/8V	4.6V/0V	OFF/DbC
Q306	0 V	0V/3.6V	4.5V/0V	OFF/DbB
0825	8 V	13.7 V	8.6 V	
0901	5.4 V	8.6 V	6.1 V	
01501	14 V	13.9 V	13.2 V	
01502	14 V	1.38 V	0V	

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Voltmeter
- Measuring Point Reference : Between GND
- Measuring Conditions : TAPE : No Bias Tape

FM : 98.1MHz (No Signal Input)
MW : 999KHz (No Signal Input)
LW : 216KHz (No Signal Input)

NOTES:

1. All resistance values are in ohms. $K = 1,000$
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μ F = microfarads, pF = picofarads

Abbreviations			Symbol No.	Part No.	Description
RES. = Resistor	CAP. = Capacitor		Q202	48T62967F03	CP., DTC124K
C.F. = Carbon Film	ELY. = Electrolytic		Q203	48T63788F01	CP., 2SD1328
M.F. = Metal Film	CER. = Ceramic		Q204	48T63788F01	CP., 2SD1328
M.O. = Metal Oxide Film	MYL. = Mylar		Q205	48T63788F01	CP., 2SD1328
M.P. = Metal Plate	TAN. = Tantalum		Q206	48T63788F01	CP., 2SD1328
TR. = Transistor	POLY. = Polystyrol		Q501	48T62967F09	CP., DTC114TK
TRANS. = Transformer	PP. = Polypropylene		Q502	48T73888F12	CP., FMC2
CP. = Chip	PLT. = Polyethylene		Q503	48T73888F12	CP., FMC2
	PF. = Polyester Film		Q504	48T62967F03	CP., DTC124K
			Q505	48T63417F01	CP., 2SC2412K
Main P. C. Board			Q506	48T62966F04	CP., DTA144
IC's			Q507	48T62967F04	CP., DTC144K
IC001	51T35502W02	LA2230	Q508	48T90181F05	2SD1993
IC002	51T35503W02	LC7073M	Q509	48T90181F05	2SD1993
IC005	51T93532F07	TC4566F	Q510	48T90181F05	2SD1993
IC006	51T93532F07	TC4566F	Q511	48T90181F05	2SD1993
IC007	51T93532F07	TC4566F	Q512	48T62967F03	CP., DTC124K
IC201	51T40941U03	MC14066BFL1	Q513	48T62967F03	CP., DTC124K
IC202	51T25154W01	BA15532F	Q514	48T62967F03	CP., DTC124K
IC203	51T80136F04	M5238FP	Q515	48T62967F03	CP., DTC124K
IC204	51T80136F04	M5238FP	Q516	48T73888F12	CP., FMC2
IC205	51T93335F01	NJM5532M	Q517	48T62967F03	CP., DTC124K
IC206	51T25154W01	BA15532F	Q518	48T62967F03	CP., DTC124K
IC207	51T93335F01	NJM5532M	Q519	48T62967F03	CP., DTC124K
IC208	51T93335F01	NJM5532M	Q520	48T62966F03	CP., DTA124
IC209	51T72016F02	LC7537AN	Q521	48T73888F12	CP., FMC2
IC210	51T93337F01	NJM4560M	Q562	48T84366F01	2SB1243
IC501	51T25699W29	25699W29	Q563	48T62967F03	CP., DTC124K
IC503	51T93332F01	NJM2903M	Q564	48T62967F09	CP., DTC114TK
IC504	51T95014F13	S-8052HNM-CR	Q565	48T73888F12	CP., FMC2
IC505	51T35181W01	35181W01	Q566	48T73888F12	CP., FMC2
IC506	51T35086W02	μ PD74HC373	Q567	48T62967F03	CP., DTC124K
IC507	51T84723F02	LC3516AML	Q568	48T62967F03	CP., DTC124K
IC508	51T93532F04	TC4581F	Q591	48T16335W03	CP., IMD2
IC509	51T93532F08	TC4530F	Q592	48T62967F22	CP., DTC144TK
IC510	51T35504W02	LC7219	Q593	48T62967F03	CP., DTC124K
IC512	51T68999F03	BU4066BF	Q801	48T15289W01	2SD2008
IC801	51T93333F01	NJM2904M	Q802	48T62967F03	CP., DTC124K
IC802	51T15268W03	L78LR05DFA	Q803	48T63417F01	CP., 2SC2412K
IC803	51T90890F01	M5236ML	Q804	48T84366F01	2SB1243
Transistors			Q805	48T83617F03	2SD1863
Q005	48T62966F03	CP., DTA124	Q806	48T63420F01	CP., 2SA1037K
Q006	48T62967F03	CP., DTC124K	Q807	48T62967F03	CP., DTC124K
Q007	48T62967F03	CP., DTC124K	Q808	48T62967F03	CP., DTC124K
Q201	48T62967F03	CP., DTC124K	Q809	48T84366F01	2SB1243
Q810	48T84366F01	2SB1243	Q811	48T62967F03	CP., DTC124K
Q812	48T62967F06	CP., DTC114YK	Q814	48T62967F03	CP., DTC124K

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Q815	48T84366F01	2SB1243	Crystals		
Q816	48T84366F01	2SB1243	X001	91T15848W01	CER., Lock 4MHz
Q817	48T62967F03	CP., DTC124K	X002	91T68469F04	CER., Lock 19KHz
Q818	48T15289W01	2SD2008	X501	91T25773W44	7.37MHz
Q819	48T83415F03	2SD1858	X502	91T25773W17	4.19MHz
Q820	48T63420F01	CP., 2SA1037K	X801	91T25773W43	7.2MHz
Q821	48T62967F03	CP., DTC124K	Switch		
Q822	48T69177F02	2SA1358	S501	40T16358W02	Slide, SSSS9 (PRE OUT ON/OFF)
Q823	48T73888F12	CP., FMC2	Capacitors		
Q824	48T73888F12	CP., FMC2	C001	08S65128F63	CP., 3300pF
Diodes			E001	23S61523F05	ELY., 22 μ F / 6.3V
D001	48T68828F01	1SS133	E002	23S61523F12	ELY., 10 μ F / 16V
D101	48T68828F01	1SS133	C003	08S65128F63	CP., 3300pF
D501	48T70933F01	1SS136	E003	23S61523F17	ELY., 4.7 μ F / 25V
D502	48T52446F01	CP., MA151WK	C004	08S65128F69	CP., 0.01 μ F
D503	48T68828F01	1SS133	E004	23S61523F12	ELY., 10 μ F / 16V
D504	48T25664W01	RB100A	C005	08S65128F43	CP., 220pF
D505	48T68828F01	1SS133	E005	23S61523F07	ELY., 47 μ F / 6.3V
D506	48T52446F01	CP., MA151WK	C006	08S65128F78	CP., 0.022 μ F
D507	48T52446F01	CP., MA151WK	E006	23S61523F29	ELY., 1 μ F / 50V
D508	48T52446F01	CP., MA151WK	C007	08T15399W02	CP., 0.033 μ F
D509	48T68828F01	1SS133	C008	08S65128F67	CP., 6800pF
D510	48T52446F01	CP., MA151WK	C009	08T15399W02	CP., 0.033 μ F
D511	48T52446F01	CP., MA151WK	C010	08S65128F69	CP., 0.01 μ F
D513	48T52446F01	CP., MA151WK	C011	08S65128F69	CP., 0.01 μ F
D601	48T52446F01	CP., MA151WK	C012	08S65128F69	CP., 0.01 μ F
D801	48T64134F01	CP., DA204K	C013	08S65128F69	CP., 0.01 μ F
D802	48T64134F01	CP., DA204K	E017	23T25149W04	ELY., 0.47 μ F / 50V
D803	48T81044F01	10E2	E018	23S61523F05	ELY., 22 μ F / 6.3V
D804	48T70933F01	1SS136	C032	08S65128F69	CP., 0.01 μ F
D805	48T70933F01	1SS136	E099	23S61523F17	ELY., 4.7 μ F / 25V
D806	48T52446F01	CP., MA151WK	E107	23S61523F34	ELY., 100 μ F / 10V
D807	48T68828F01	1SS133	C201	08S72783F15	CP., 22pF
D810	48T16617W01	CP., 1SS332	E201	23T25149W09	ELY., 10 μ F / 16V
D899	48T68828F01	1SS133	C202	08S72783F15	CP., 22pF
ZD501	48T83128F20	Zener, HZS9A2L	E202	23T25149W12	ELY., 47 μ F / 16V
ZD502	48T90517F26	Zener, HZS5.6NB1	C203	08T35388W09	PP., 2200pF
ZD503	48T90517F26	Zener, HZS5.6NB1	E203	23T25149W09	ELY., 10 μ F / 16V
ZD505	48T90517F07	Zener, HZS2.7NB1	C204	08T35388W09	PP., 2200pF
ZD801	48T90517F52	Zener, HZS12NB3	E204	23T25149W09	ELY., 10 μ F / 16V
ZD803	48T83128F25	Zener, HZS9C1L	C205	08T90316F30	TF, 0.12 μ F
ZD804	48T83128F02	Zener, HZS6A2L	E205	23T25149W09	ELY., 10 μ F / 16V
ZD805	48T90517F32	Zener, HZS6.8NB1	C206	08T90316F30	TF, 0.12 μ F
ZD806	48T83128F26	Zener, HZS9C2L			
ZD807	48T83128F01	Zener, HZS6A1L			

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
E206	23T25149W09	ELY., 10 μ F / 16V	C515	08S65128F51	CP., 470pF
C207	08T90316F30	TF, 0.12 μ F	C516	08T90316F29	TF, 0.1 μ F
E207	23T25149W09	ELY., 10 μ F / 16V	E516	23S61523F34	ELY., 100 μ F / 10V
C208	08T90316F30	TF, 0.12 μ F	C517	08S65128F69	CP., 0.01 μ F
E208	23T25149W09	ELY., 10 μ F / 16V	C518	08S65128F61	CP., 2200pF
C209	08T90316F09	TF, 2200pF	C519	08S65128F69	CP., 0.01 μ F
E209	23T25149W05	ELY., 1 μ F / 50V	C520	08S65128F69	CP., 0.01 μ F
C210	08T90316F09	TF, 2200pF	C521	08T15399W02	CP., 0.033 μ F
E210	23T25149W05	ELY., 1 μ F / 50V	C522	08T15399W02	CP., 0.033 μ F
C211	08S72783F15	CP., 22pF	C523	08T15399W02	CP., 0.033 μ F
E211	23T25149W04	ELY., 0.47 μ F / 50V	C524	08S65128F69	CP., 0.01 μ F
C212	08S72783F15	CP., 22pF	C525	08S65128F21	CP., 27pF
E212	23T25149W04	ELY., 0.47 μ F / 50V	C526	08S65128F21	CP., 27pF
E213	23T25149W09	ELY., 10 μ F / 16V	C527	08S65128F78	CP., 0.022 μ F
E214	23T25149W09	ELY., 10 μ F / 16V	C530	08S65128F69	CP., 0.01 μ F
E215	23T25149W09	ELY., 10 μ F / 16V	C531	08S65128F57	CP., 1000pF
E216	23T25149W10	ELY., 22 μ F / 16V	C532	08S65128F69	CP., 0.01 μ F
E217	23T25149W10	ELY., 22 μ F / 16V	C533	08S65128F69	CP., 0.01 μ F
E218	23T25149W09	ELY., 10 μ F / 16V	C536	08S65128F35	CP., 100pF
E219	23T25149W09	ELY., 10 μ F / 16V	C537	08S65128F35	CP., 100pF
E220	23T25149W10	ELY., 22 μ F / 16V	C538	08S65128F35	CP., 100pF
E221	23T25149W10	ELY., 22 μ F / 16V	C539	23T82372F19	ELY., (B.P) 2.2 μ F / 50V
E222	23T25149W09	ELY., 10 μ F / 16V	C590	08S65128F19	CP., 22pF
E223	23T25149W09	ELY., 10 μ F / 16V	C591	08S65128F19	CP., 22pF
E224	23T25149W05	ELY., 1 μ F / 50V	C594	08S65128F21	CP., 27pF
E225	23T25149W05	ELY., 1 μ F / 50V	C595	08S65128F21	CP., 27pF
E226	23T25149W05	ELY., 1 μ F / 50V	C601	08T15399W03	CP., 0.047 μ F
E227	23T25149W05	ELY., 1 μ F / 50V	C801	08S65128F78	CP., 0.022 μ F
C501	08S65128F69	CP., 0.01 μ F	C802	08S65128F57	CP., 1000pF
E501	23S61523F15	ELY., 47 μ F / 16V	E802	23S61523F34	ELY., 100 μ F / 10V
C502	08S65128F69	CP., 0.01 μ F	C803	08S65128F78	CP., 0.022 μ F
E502	23S61523F12	ELY., 10 μ F / 16V	E803	23S61523F12	ELY., 10 μ F / 16V
C503	08S65128F78	CP., 0.022 μ F	C804	08T15399W03	CP., 0.047 μ F
E503	23S61523F34	ELY., 100 μ F / 10V	C805	08S65128F69	CP., 0.01 μ F
C504	08S65128F78	CP., 0.022 μ F	E805	23S61523F12	ELY., 10 μ F / 16V
E504	23S61523F34	ELY., 100 μ F / 10V	C806	08S65128F47	CP., 330pF
C505	08S65128F35	CP., 100pF	E806	23T25149W09	ELY., 10 μ F / 16V
E505	23S61523F34	ELY., 100 μ F / 10V	C807	08S65128F78	CP., 0.022 μ F
C506	08S65128F35	CP., 100pF	E807	23S61523F12	ELY., 10 μ F / 16V
E506	23S61523F12	ELY., 10 μ F / 16V	C808	08S65128F78	CP., 0.022 μ F
C507	08S65128F35	CP., 100pF	E808	23S57422F11	ELY., 22 μ F / 16V
C508	08S65128F35	CP., 100pF	C809	08S65128F69	CP., 0.01 μ F
E508	23S61523F25	ELY., 0.1 μ F / 50V	E809	23S61523F12	ELY., 10 μ F / 16V
C509	08S65128F78	CP., 0.022 μ F	C810	08S65128F69	CP., 0.01 μ F
E509	23S61523F11	ELY., 47 μ F / 10V	E810	23T35505W01	ELY., 1000 μ F / 16V
C510	08S65128F78	CP., 0.022 μ F	E811	23T25149W09	ELY., 10 μ F / 16V
C511	08S65128F35	CP., 100pF	E812	23T94181F40	ELY., 220 μ F / 10V
E512	23S61523F25	ELY., 0.1 μ F / 50V	E813	23S61523F12	ELY., 10 μ F / 16V
C513	08S65128F35	CP., 100pF	E815	23T25149W04	ELY., 0.47 μ F / 50V
E513	23T25149W04	ELY., 0.47 μ F / 50V	E816	23T25149W13	ELY., 100 μ F / 10V
C514	08S65128F35	CP., 100pF	E819	23S61523F12	ELY., 10 μ F / 16V
E514	23S61523F34	ELY., 100 μ F / 10V	E899	23T35505W01	ELY., 1000 μ F / 16V

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Resistors (All resistors are chip 1/10W $\pm$ 5% unless otherwise noted.)			R228	06S64995F77	10K ohm
R001	06S64996F20	560K ohm	R229	06S64995F77	10K ohm
R002	06S64996F28	1.5M ohm	R230	06S64995F77	10K ohm
R003	06S64995F53	1K ohm	R231	06S64995F77	10K ohm
R004	06S64995F71	5.6K ohm	R232	06S64995F77	10K ohm
R005	06S64995F77	10K ohm	R233	06S64995F77	10K ohm
R006	06S64995F77	10K ohm	R234	06S64995F67	3.9K ohm
R007	06S64995F77	10K ohm	R235	06S64995F67	3.9K ohm
R008	06S64995F93	47K ohm	R236	06S64996F02	100K ohm
R009	06S64995F77	10K ohm	R237	06S64996F02	100K ohm
R010	06S64995F85	22K ohm	R238	06S64995F85	22K ohm
R011	06S53330F29	100 ohm 1/8W	R239	06S64995F85	22K ohm
R012	06S64995F97	68K ohm	R240	06S64995F37	220 ohm
R049	06S64995F61	2.2K ohm	R241	06S64995F37	220 ohm
R050	06S64996F02	100K ohm	R242	06S64995F77	10K ohm
R051	06S64995F77	10K ohm	R243	06S64995F77	10K ohm
R054	06S64995F53	1K ohm	R244	06S64995F85	22K ohm
R055	06S64995F53	1K ohm	R245	06S64995F85	22K ohm
R056	06S64995F53	1K ohm	R246	06S64995F37	220 ohm
R099	06S64995F65	3.3K ohm	R247	06S64995F37	220 ohm
R101	06S64995F69	4.7K ohm	R248	06S64996F02	100K ohm
R102	06S64995F93	47K ohm	R249	06S64996F02	100K ohm
R103	06S64995F93	47K ohm	R250	06S64995F67	3.9K ohm
R104	06S64995F93	47K ohm	R251	06S64995F67	3.9K ohm
R201	06S64995F77	10K ohm	R252	06S64995F85	22K ohm
R202	06S64995F77	10K ohm	R253	06S64995F85	22K ohm
R203	06S64995F77	10K ohm	R254	06S64995F77	10K ohm
R204	06S64995F77	10K ohm	R255	06S64995F77	10K ohm
R205	06S64995F77	10K ohm	R256	06S64995F37	220 ohm
R206	06S64995F77	10K ohm	R257	06S64995F37	220 ohm
R207	06S64995F73	6.8K ohm	R258	06S64995F85	22K ohm
R208	06S64995F73	6.8K ohm	R259	06S64995F85	22K ohm
R209	06S64995F61	2.2K ohm	R260	06S64995F37	220 ohm
R210	06S64996F02	100K ohm	R261	06S64995F37	220 ohm
R211	06S64995F76	9.1K ohm	R263	06S64996F26	1M ohm
R212	06S64995F77	10K ohm	R264	06S64996F26	1M ohm
R213	06S64995F77	10K ohm	R501	06S64995F93	47K ohm
R214	06S64995F77	10K ohm	R502	06S64996F02	100K ohm
R215	06S64995F63	2.7K ohm	R503	06S64995F77	10K ohm
R216	06S64995F63	2.7K ohm	R504	06S64995F71	5.6K ohm
R217	06S64995F77	10K ohm	R505	06S64995F75	8.2K ohm
R218	06S64995F77	10K ohm	R506	06S64995F65	3.3K ohm
R219	06S64996F26	1M ohm	R507	06S64995F65	3.3K ohm
R220	06S64996F26	1M ohm	R508	06S64995F53	1K ohm
R221	06S64996F26	1M ohm	R509	06S64995F51	820 ohm
R222	06S64996F26	1M ohm	R510	06S53330F05	10 ohm 1/8W
R223	06S64996F26	1M ohm	R511	06S64995F53	1K ohm
R224	06S64996F26	1M ohm	R512	06S64995F53	1K ohm
R225	06S64995F93	47K ohm	R513	06S64995F37	220 ohm
R226	06S64995F77	10K ohm	R514	06S64995F85	22K ohm
R227	06S64995F77	10K ohm	R515	06S64995F47	560 ohm
			R516	06S64995F71	5.6K ohm

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
R517	06S64995F85	22K ohm	R584	06S64995F93	47K ohm
R518	06S64995F77	10K ohm	R585	06S64995F85	22K ohm
R521	06S64995F77	10K ohm	R586	06S64995F93	47K ohm
R522	06S64995F77	10K ohm	R587	06S64995F69	4.7K ohm
R523	06S64995F77	10K ohm	R588	06S64995F93	47K ohm
R524	06S64995F77	10K ohm	R589	06S64995F93	47K ohm
R525	06T70072F53	1K ohm 1/4W	R590	06S64995F93	47K ohm
R526	06S64996F02	100K ohm	R593	06S64995F77	10K ohm
R527	06S64996F02	100K ohm	R594	06S64995F41	330 ohm
R528	06S64995F77	10K ohm	R595	06S64996F14	330K ohm
R529	06S64995F77	10K ohm	R599	06S64995F85	22K ohm
R530	06S64995F93	47K ohm	R601	06S64995F77	10K ohm
R531	06S64996F02	100K ohm	R602	06S64995F77	10K ohm
R532	06S64995F93	47K ohm	R604	06S64996F02	100K ohm
R534	06S64996F26	1M ohm	R607	06S64995F93	47K ohm
R535	06S64995F53	1K ohm	R612	06S64995F41	330 ohm
R536	06S64996F02	100K ohm	R620	06S64996F02	100K ohm
R537	06S64996F26	1M ohm	R623	06S64995F93	47K ohm
R538	06S64996F26	1M ohm	R624	06S64995F93	47K ohm
R539	06S64995F76	9.1K ohm	R625	06S64996F02	100K ohm
R540	06S64995F77	10K ohm	R627	06S64995F93	47K ohm
R541	06S64995F77	10K ohm	R628	06S64995F93	47K ohm
R542	06S64995F76	9.1K ohm	R629	06S64995F93	47K ohm
R543	06S64995F93	47K ohm	R630	06S64995F93	47K ohm
R544	06S64995F93	47K ohm	R631	06S64995F93	47K ohm
R546	06S64995F69	4.7K ohm	R632	06S64995F93	47K ohm
R547	06S64995F93	47K ohm	R633	06S64995F93	47K ohm
R548	06S64995F61	2.2K ohm	R634	06S64995F53	1K ohm
R549	06S64995F61	2.2K ohm	R635	06S64995F53	1K ohm
R550	06S64995F69	4.7K ohm	R801	06S64995F65	3.3K ohm
R551	06S64995F69	4.7K ohm	R802	06S64995F65	3.3K ohm
R552	06S64995F93	47K ohm	R803	06S64995F77	10K ohm
R553	06S64995F93	47K ohm	R804	06T70072F53	1K ohm 1/4W
R554	06S64995F93	47K ohm	R805	06T70072F53	1K ohm 1/4W
R555	06S64995F93	47K ohm	R806	06S64995F77	10K ohm
R556	06S64995F83	18K ohm	R807	06S64995F69	4.7K ohm
R557	06S64995F77	10K ohm	R808	06S53330F61	2.2K ohm 1/8W
R565	06T70072F19	39 ohm 1/4W	R809	06T70072F45	470 ohm 1/4W
R566	06S64995F77	10K ohm	R810	06S64995F93	47K ohm
R567	06S64995F77	10K ohm	R811	06S64995F61	2.2K ohm
R568	06T70072F53	1K ohm 1/4W	R812	06S64996F02	100K ohm
R569	06T70072F01	4.7 ohm 1/4W	R813	06S64996F02	100K ohm
R570	06S64995F93	47K ohm	R814	06S64995F65	3.3K ohm
R571	06S64995F93	47K ohm	R815	06S64995F77	10K ohm
R575	06S64995F61	2.2K ohm	R816	06S64995F81	15K ohm
R576	06S64995F71	5.6K ohm	R817	06T70072F53	1K ohm 1/4W
R577	06S64995F85	22K ohm	R818	06S64995F77	10K ohm
R579	06S64995F69	4.7K ohm	R819	06S64995F77	10K ohm
R580	06S64995F93	47K ohm	R820	06T70072F38	240 ohm 1/4W
R581	06S64995F93	47K ohm	R821	06T70072F38	240 ohm 1/4W
R582	06S64995F93	47K ohm	R822	06S64995F77	10K ohm
R583	06S64995F93	47K ohm	R823	06T70072F53	1K ohm 1/4W

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Crystal / Thermistor			R413	06S64995F93	47K ohm
X401	91T67096F01	Crystal, 4.5MHz	R414	06S64995F93	47K ohm
TH401	48T93439F03	10K ohm	R415	06S64995F93	47K ohm
Lamps			R416	06S64995F93	47K ohm
PL401	65T25170W06	6V-70mA	R417	06S64995F93	47K ohm
PL402	65T25170W06	6V-70mA	R419	06S64995F93	47K ohm
PL403	65T25170W13	6V-70mA	R420	06S64995F93	47K ohm
PL404	65T25170W13	6V-70mA	R421	06S64995F61	2.2K ohm
PL405	65T95083F04	6.7V-85mA	R423	06S64995F77	10K ohm
PL406	65T95083F05	6.7V-85mA	R424	06S64995F77	10K ohm
PL407	65T25170W06	6V-70mA	R425	06S64995F77	10K ohm
PL408	65T25170W06	6V-70mA	R426	06S64995F77	10K ohm
PL409	65T25170W06	6V-70mA	R427	06S64995F77	10K ohm
PL410	65T25170W13	6V-70mA	R428	06S64995F93	47K ohm
PL411	65T25170W13	6V-70mA	R431	06S64995F93	47K ohm
Capacitors			R432	06S64995F65	3.3K ohm
C401	08T15399W01	CP., 0.022 μ F	R433	06S64995F65	3.3K ohm
C402	08T15399W03	CP., 0.047 μ F	R434	06S64995F65	3.3K ohm
E402	23S61523F07	ELY., 47 μ F / 6.3V	R435	06S64995F65	3.3K ohm
C403	08S65128F69	CP., 0.01 μ F	R436	06S64995F65	3.3K ohm
E403	23S61523F07	ELY., 47 μ F / 6.3V	R437	06S64995F65	3.3K ohm
C404	08S65128F69	CP., 0.01 μ F	R438	06T70072F88	7.5 ohm 1/4W
E404	23S61523F07	ELY., 47 μ F / 6.3V	R439	06S64995F93	47K ohm
C405	08S65128F69	CP., 0.01 μ F	R440	06S64995F93	47K ohm
C406	08S65128F69	CP., 0.01 μ F	R441	06S64995F93	47K ohm
C407	08T15399W01	CP., 0.022 μ F	R442	06S64995F93	47K ohm
C408	08S65128F55	CP., 680pF	R443	06S64995F77	10K ohm
C409	08S65128F19	CP., 22pF	R444	06S64995F61	2.2K ohm
C410	08S65128F19	CP., 22pF	R445	06T70072F47	560 ohm 1/4W
Resistors (All resistors are chip 1/10W $\pm$ 5% unless otherwise noted.)			R446	06T70072F47	560 ohm 1/4W
R404	06T70072F21	47 ohm 1/4W	R447	06T70072F47	560 ohm 1/4W
R405	06T70072F47	560 ohm 1/4W	R448	06T70072F47	560 ohm 1/4W
R408	06T70072F21	47 ohm 1/4W	R449	06T70072F47	560 ohm 1/4W
R409	06T70072F25	68 ohm 1/4W	R450	06T70072F47	560 ohm 1/4W
R410	06T70072F25	68 ohm 1/4W	R451	06T70072F47	560 ohm 1/4W
R411	06T70072F47	560 ohm 1/4W	R452	06T70072F47	560 ohm 1/4W
R412	06T70072F21	47 ohm 1/4W	R453	06T70072F47	560 ohm 1/4W
			R455	06T70072F47	560 ohm 1/4W
			R456	06S64995F93	47K ohm
			MPX & Dolby P. C. Board		
			IC's		
			IC003	51T94316F02	AN7465S
			IC004	51T93333F01	NJM2904M
			IC301	51T25767W02	CXA1332M
			IC511	51T40242T02	MC14011BFL1

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Transistors					
Q001	48T62967F03	CP., DTC124K	C026	08S65128F63	CP., 3300pF
Q002	48T62967F03	CP., DTC124K	C027	08S65128F61	CP., 2200pF
Q004	48T62967F03	CP., DTC124K	C028	08S65128F61	CP., 2200pF
Q303	48T62967F03	CP., DTC124K	C031	08S65128F78	CP., 0.022 μ F
Q304	48T62967F03	CP., DTC124K	C301	08T90316F38	TF, 0.56 μ F
Q305	48T62967F03	CP., DTC124K	E301	23T25149W12	ELY., 47 μ F / 16V
Q306	48T62967F03	CP., DTC124K	C302	08T90316F38	TF, 0.56 μ F
Diode			E302	23T25149W09	ELY., 10 μ F / 16V
D003	48T68828F01	1S5133	C303	08T35388W09	PP., 2200pF
Coils / Buzzer			E303	23T25149W03	ELY., 0.33 μ F / 50V
L001	24T42241U04	Dolby, 23mH	C304	08T35388W09	PP., 2200pF
L002	24T42241U04	Dolby, 23mH	E304	23T25149W03	ELY., 0.33 μ F / 50V
BZ501	50T25148W01	Buzzer, CB13PA	C305	08T35388W09	PP., 2200pF
Capacitors			E305	23S61523F12	ELY., 10 μ F / 16V
E007	23T25149W10	ELY., 22 μ F / 16V	C306	08T35388W09	PP., 2200pF
E008	23S61523F25	ELY., 0.1 μ F / 50V	E306	23S61523F12	ELY., 10 μ F / 16V
E009	23S61523F25	ELY., 0.1 μ F / 50V	E307	23T25149W05	ELY., 1 μ F / 50V
E010	23S61523F26	ELY., 0.22 μ F / 50V	E308	23T25149W05	ELY., 1 μ F / 50V
E011	23S61523F29	ELY., 1 μ F / 50V	E309	23T25149W05	ELY., 1 μ F / 50V
C012	08S65128F69	CP., 0.01 μ F	E310	23T25149W05	ELY., 1 μ F / 50V
E012	23S61523F25	ELY., 0.1 μ F / 50V	E511	23S61523F12	ELY., 10 μ F / 16V
C013	08S65128F67	CP., 6800pF	C528	08S65128F62	CP., 2700pF
E013	23T25149W15	ELY., 4.7 μ F / 35V	C529	08S65128F78	CP., 0.022 μ F
C014	08T35388W30	PP., 390pF	Resistors (All resistors are chip 1/10W $\pm$ 5% unless otherwise noted.)		
C015	08T15399W03	CP., 0.047 μ F	R013	06S53330F05	10 ohm 1/8W
E015	23S61523F29	ELY., 1 μ F / 50V	R014	06S64996F18	470K ohm
C016	08T15399W03	CP., 0.047 μ F	R015	06S64995F79	12K ohm
E016	23S61523F12	ELY., 10 μ F / 16V	R016	06S64995F65	3.3K ohm
C017	08S65128F63	CP., 3300pF	R017	06S64995F57	1.5K ohm
C018	08S65128F69	CP., 0.01 μ F	R018	06S64996F26	1M ohm
C019	08S65128F51	CP., 470pF	R019	06S64995F69	4.7K ohm
C020	08S65128F69	CP., 0.01 μ F	R020	06S64995F65	3.3K ohm
C021	08S65128F78	CP., 0.022 μ F	R021	06S64995F81	15K ohm
C022	08S65128F78	CP., 0.022 μ F	R022	06S64995F81	15K ohm
C023	08S65128F61	CP., 2200pF	R023	06S64995F77	10K ohm
C024	08S65128F61	CP., 2200pF	R024	06S64995F65	3.3K ohm
C025	08S65128F63	CP., 3300pF	R025	06S64995F65	3.3K ohm
			R026	06S64995F65	3.3K ohm
			R027	06S64995F65	3.3K ohm
			R028	06S64995F69	4.7K ohm
			R029	06S64995F69	4.7K ohm
			R030	06S64995F65	3.3K ohm
			R031	06S64995F65	3.3K ohm
			R032	06S64996F02	100K ohm
			R033	06S64995F93	47K ohm
			R034	06S64995F95	56K ohm
			R038	06S64996F02	100K ohm

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
			Capacitors		
R039	06S64996F02	100K ohm	C811	08S65128F78	CP., 0.022 μ F
R040	06S64995F85	22K ohm	C812	08S65128F78	CP., 0.022 μ F
R041	06S64996F20	560K ohm	E820	23T35462W14	ELY., 470 μ F / 10V
R042	06S53330F41	330 ohm 1/8W	E901	23S61523F34	ELY., 100 μ F / 10V
R043	06S64996F14	330K ohm			
R044	06S64996F02	100K ohm	Resistors (All resistors are chip 1/10W $\pm$ 5% unless otherwise noted.)		
R045	06S64995F77	10K ohm	R849	06T70072F53	1K ohm 1/4W
R046	06S64995F81	15K ohm	R901	06S64995F59	1.8K ohm
R048	06S64996F26	1M ohm	R902	06S64995F71	5.6K ohm
R301	06S64995F87	27K ohm			
R302	06S64995F53	1K ohm	GR Contorl P. C. Board		
R303	06S64995F47	560 ohm	IC's / Transistors		
R304	06S64995F47	560 ohm	IC1501	51T25621W01	IC, AN6275K
R305	06S64995F86	24K ohm	IC1502	51T67915F01	IC, M51143AL
R306	06S64995F86	24K ohm	Q1501	48T84366F05	2SB1243
R307	06S64995F37	220 ohm	Q1502	48T94606F12	CP., DTC144TU
R308	06S64995F37	220 ohm			
R309	06S64995F79	12K ohm	Capacitors		
R310	06S64995F75	8.2K ohm	E1501	23S61524F32	ELY., 1 μ F / 50V
R311	06S64995F79	12K ohm	C1502	08T35374W01	CP., 0.1 μ F
R312	06S64995F75	8.2K ohm	C1503	08T35374W01	CP., 0.1 μ F
R558	06S64995F37	220 ohm	C1504	08T35374W01	CP., 0.1 μ F
R559	06S64995F37	220 ohm	C1505	08S65128F15	CP., 15pF
R560	06S64995F90	36K ohm			
R561	06S64996F26	1M ohm	Resistors (All resistors are chip 1/10W $\pm$ 5% unless otherwise noted.)		
R562	06S64995F93	47K ohm	R1501	06S64995F77	10K ohm
R704	06S64996F02	100K ohm	R1502	06S64995F77	10K ohm
VR002	18T35121W11	Variable, 4.7K ohm	R1503	06S64996F10	220K ohm
VR003	18T16359W09	Variable, 2.2K ohm	R1504	06S64996F26	1M ohm
VR004	18T16359W14	Variable, 15K ohm	R1505	06S64996F18	470K ohm
VR301	18T35121W13	Variable, 10K ohm	R1506	06S64996F01	91K ohm
VR302	18T35121W13	Variable, 10K ohm			
QRB P. C. Board					
Transistors					
Q825	48T69176F02	2SC3421			
Q901	48T63417F01	CP., 2SC2412K			
Diodes					
D808	48T81044F01	10E2			
D999	48T94471F01	CP., IMN10			
ZD802	48T83128F01	Zener, HZS6A1L			

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
GR Audio P. C. Board					
IC / Diode					
IC1201	51T15146W01	IC, TA7705P			
D1201	48T44813F01	MA165TA			
Capacitors					
E1201	23T25149W09	ELY., 10 μ F / 16V			
C1202	08T35389W07	TF, 330pF			
E1202	23T25149W13	ELY., 100 μ F / 10V			
C1203	08T35389W07	TF, 330pF			
E1203	23T25149W13	ELY., 100 μ F / 10V			
C1204	08T35389W07	TF, 330pF			
E1204	23T25149W12	ELY., 47 μ F / 16V			
C1205	08T35389W07	TF, 330pF			
E1205	23T25149W15	ELY., 4.7 μ F / 35V			
E1206	23T25149W15	ELY., 4.7 μ F / 35V			
C1208	08T35122W02	TF, 0.012 μ F			
C1209	08T35122W02	TF, 0.012 μ F			
Resistors (All resistors are chip 1/10W $\pm$ 5% unless otherwise noted.)					
R1201	06S53330F29	100 ohm 1/8W			
R1202	06S53330F32	130 ohm 1/8W			
R1203	06S53330F32	130 ohm 1/8W			
R1204	06S64996F14	330K ohm			
R1205	06S64996F14	330K ohm			
R1208	06S64995F78	11K ohm			
R1209	06S64995F78	11K ohm			
R1210	06S64995F81	15K ohm			
R1211	06S64995F81	15K ohm			
R1212	06S64995F65	3.3K ohm			
R1213	06S53330F65	3.3K ohm 1/8W			
R1214	06S53330F85	22K ohm 1/8W			
R1215	06S64995F85	22K ohm			
Miscellaneous					
BA501	60T25650W02	Battery, Lit. CR2032-1VC1			
or	60T91060F03	Battery, Lit. CR2032-1VO3			
ET801	01T25803W11	QRB Socket			
HD1101	88T35406W01	Head			

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A

B - 60 -

C

D

E

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G

H

Cabinet Assembly Parts List

Notes : ● The parts without parts list are not supplied.
 ● Parts marked * will need a long delivery time, or may be not supplied in some cases.

Symbol No.	Index	Part No.	Description	Symbol No.	Index	Part No.	Description
1	4-D	13D30980W05	Assy., Nosepiece				
2	1-B	15C21584W04	Cover, Top				
4	4-B	07C21606W01	Assy., Bracket Handle				
5	4-C	36A31085W01	Knob, Rotary				
6	4-C	36A31501W01	Knob, Control				
7	4-F	29A737272	Lug, Wrap Around				
9		03S44205G29	Screw, Pan (M2.6×6)				
10		03S44205G34	Screw, Pan (M2.6×5)				
11		03S71677F06	Screw, Flange (M2.6×6)				
12	3-B	03C42723U08	Screw, Cup (M2.6×5.5)				
13		03S44205G42	Screw, Pan (M2.6×4)				
14		03S52360F78	Screw, Pan (M2.6×8)				
*15	2-D	81D30455W03	Cassette Deck GR75H030				
17	1-D	41A20424W01	Spring, Door				
19	3-G	77C41602W01	DYNAS Unit MB0R0010				
*22	5-B	01V43200W69	Assy., Display P.C.Board				
23	3-B	43A13836W01	Spacer, Power				
25		14S31757W35	Insulator, Cover				
26	3-B	26A31424W05	Sheet, LCD				
27	3-B	15A31421W01	Case, LCD				
28	3-B	61A31423W01	Lens, LCD				
29	4-B	15A31422W01	Cover, LCD				
30	3-E	42T93247F05	Clamp				
32	2-G	75S12196W60	Cushion, Rubber				
33		75T35441W01	Rubber, Electric				
34	2-G	04B41345P11	Washer, Lock (M1.2)				
36	2-F	03S44205G19	Screw, Pan (M3×8)				

Notes : "19" DYNAS Unit (MB0R0010) consists of "19-1" FM/MW/LW Tuner Unit (MB4R0010) and "19-2" DYNAS UNIT (MB3R0010). When replacing one of the units, always replace both the units "19-1" and "19-2" at the same time.

Packing Assembly Parts List

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
101	56S30003W44	Carton, Packing (Individual)	110-2	60T70585F01	Battery, Lit. 3V
102	56D30982W01	Tray, Packing (L)			
103	56D30982W02	Tray, Packing (R)			
104	01V34100W03	Assy., Kit Installation			
105	07B64552F01	Bracket, Strap Receiver			
106	56C40990T36	Sack, Polyethylene			
107	01T96095F08	Assy., Connector (4P)			
108-1	68P32052W11	Owner's Manual			
108-2	68P32052W51	Owner's Manual			
108-3	68P32052W80	Owner's Manual			
109-1	15D21598W01	Case, Mother			
109-2	03A28015W01	Screw, Special (M2.6 × 6.7)			
109-3	01T35620W17	Assy., QRB Connector			
110-1	01T35404W02	Assy., Remocon			

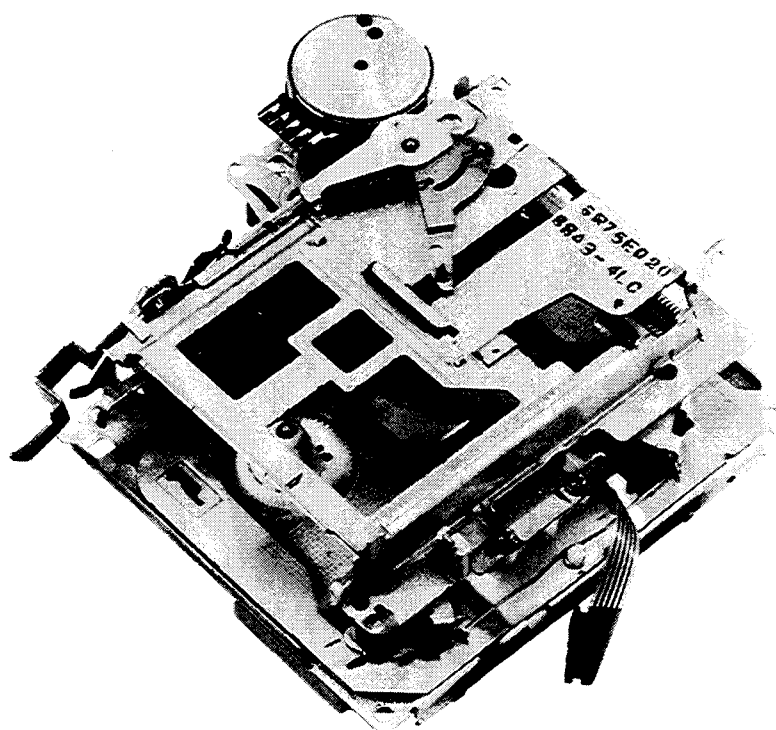
Packing Method View

- Refer to the Service Manual 7618R (68P40971W02) for the description not mentioned in this manual.

ALPINE[®] **SERVICE MANUAL**

Cassette Deck Mechanism

ADDENDUM & REVISED(V)



GR/GR-Y SERIES

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Memo

List of Usable Lock Washers

	SIZE	PARTS NO.	QUANTITY			
			GR75E Series	GR75L Series	GR-Y Series	GR75H Series
1	(M1.2 × 3.5 × 0.25)	04B41345P01	4	4	4	2
2	(M1.7 × 3.5 × 0.25)	04B41345P02	1	1	1	4
3	(M1.2 × 2.5 × 0.25)	04B41345P11	8	8	8	9
4	(M1.7 × 3.5 × 0.35)	04B41345P12	2	2	2	2
5	(M1.2 × 3.5 × 0.35)	04B41345P15	2	2	2	2
6	(M1 × 2.5 × 0.25)	04B41345P17	1	1	1	2
7	(M2.6 × 5 × 0.25)	04B41345P29	1	1	1	1
8	(M3.1 × 8 × 0.05)	04B41345P30	1	1	1	1
9	(M3.1 × 5 × 0.35)	04B41345P32	2	2	2	2
10	(M1.2 × 2.5 × 0.3)	04B41345P34	1	1	1	0
11	(M1.7 × 2.8 × 0.25)	04B41345P35	1	1	1	2
12	(M2.1 × 4 × 0.25)	04B41345P37	1	1	1	0
13	(M2.1 × 4 × 0.13)	04S40075G05	2	2	2	0
14	(M2.1 × 4 × 0.3)	04S40075G58	0	0	0	1

List of Usable Oil

- 1) Molykote G paste
- 2) Grease EM-30L
- 3) Grease PG-671

List of Usable Jigs

- 1) GR bottom gear jig (Part No. 44A20788W01)
- 2) Head height adjustment gauge
AI-500 (Part No. AI-500)

Disassembly, Assembly and Replacement of Functional Parts

1. Disassembly and Assembly of Bottom Cover

- (1) Turn the mechanism around as shown in Figure 1.
- (2) Remove M1 lock washer ① as shown in Figure 1.
- (3) Remove three screws ② as shown in Figure 1.
- (4) Lift the bottom cover slowly from the position ③-1, pull the hooks out of the holes in the chassis, and remove the bottom cover as shown in Figure 1.
- (5) When remounting the bottom cover, first turn the front of the mechanism up as shown in Figure 2.
- (6) Slide the slider in the direction ③-2 as shown in Figure 2.
- (7) Push down the cassette holder in the direction ③-3 as shown in Figure 2.
- (8) Pull the door pin in the direction ③-4 so that the mechanism is locked in as shown in Figure 2.
- (9) Turn the mechanism around as shown in Figure 3.
- (10) Pull the automatic metal lever in the direction ③-5 and the RF solenoid chip in the direction ③-6 as shown in Figure 3.
- (11) Insert the hooks of the bottom cover into the chassis in the direction ③-7, and then join the part ③-8 of the bottom cover to the chassis slowly, making sure that the 3 points indicated with the straight lines in the Figure 3 are fitted properly.
If there are troubles in mounting the bottom cover, do not apply force but remove the bottom cover once again and check the positions of the individual parts. (Refer to Figure 3.)
- (12) Since the hooks marked ③-8 will be lifted slightly as shown in Figure 4, insert the jig through the hole ③-9, and fix it turning the jig slightly in the direction ③-11.
Instead of operation (12), turn the gear nose slowly with a precision screwdriver etc., taking care not to damage it.
After 2 to 3 turns, it will click into place.
(Refer to Figures 4 and 5.)
- (13) Fix the screws and the lock washer that have been removed.

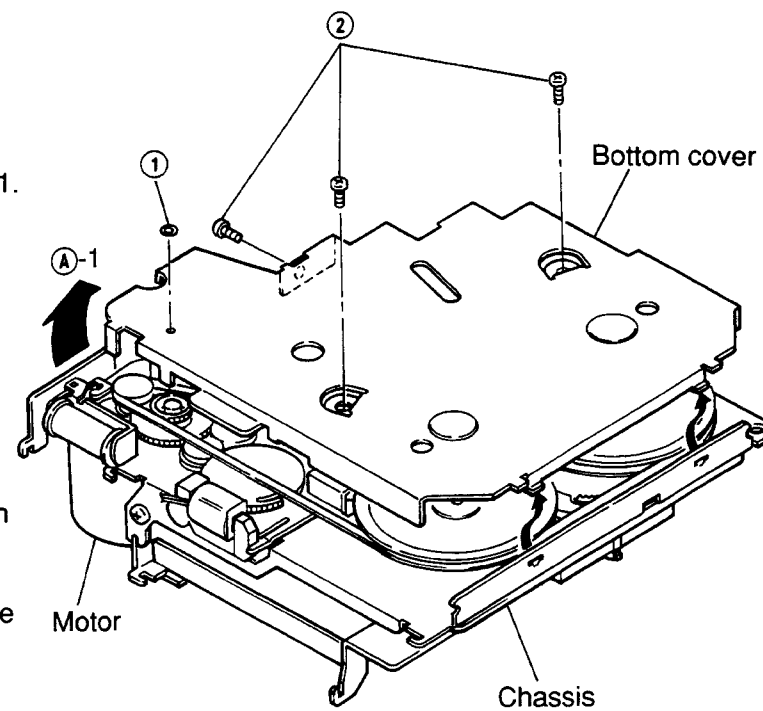


Figure 1

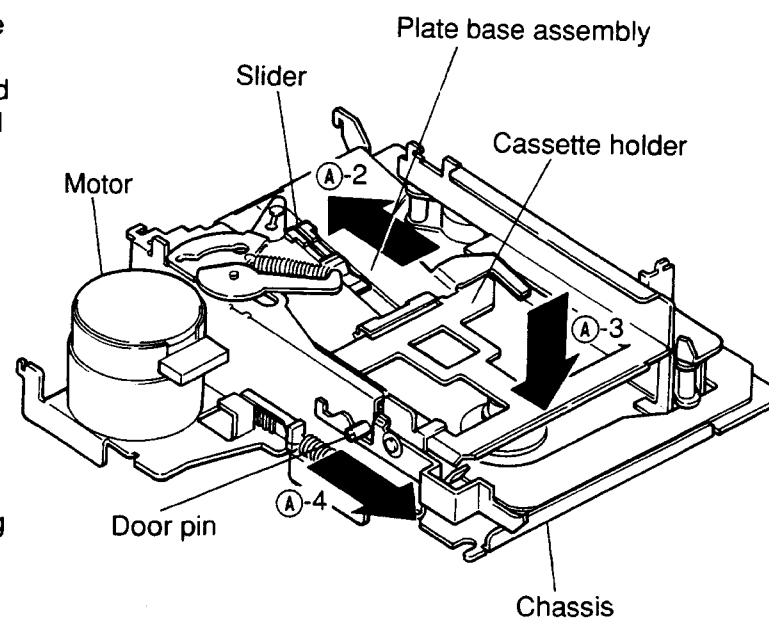


Figure 2

- (14) Insert the jig into the hole ③-9 as shown in Figure 4 and rotate the eject solenoid counterclockwise about 20 times, pulling it in the direction ③-10 with the finger. Then the eject operation is completed. Instead of operation (14), the eject operation can be performed by mounting the mechanism to the product. (Refer to Figures 4 and 5.)

Note: Do not reuse the used lock washers for mounting.
When turning the mechanism, be careful not to drop the gear and the flywheel.
Fasten the three screws with a fastening torque of 6 kg.cm.

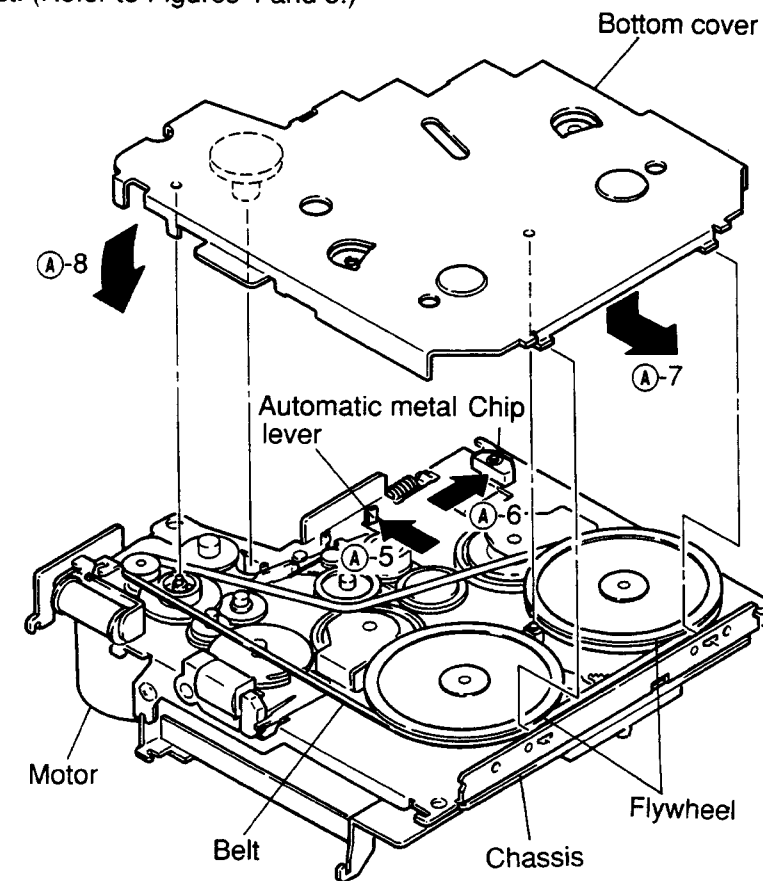


Figure 3

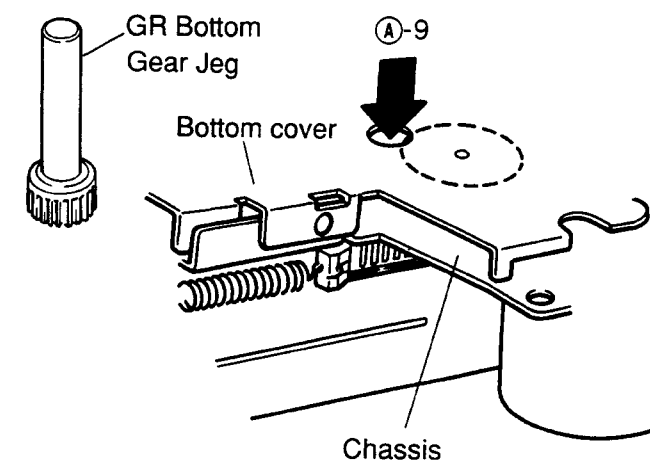


Figure 4

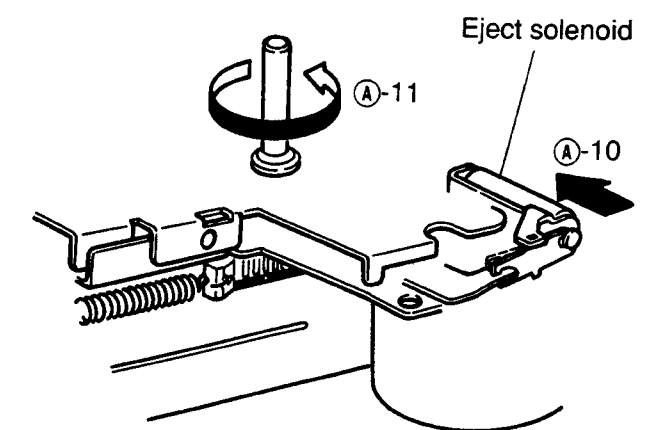


Figure 5

2. Replacement of the bottom cover mounting parts

a. Replacement of the eject gear

- (1) Remove M1.2 lock washer ③ as shown in Figure 6.
- (2) Pull the eject pinion out of the eject gear and remove the eject gear as shown in Figure 6.
- (3) Apply the molykote E paste to the section ⑧-1, and mount the eject gear following the removal steps in the reverse order. After replacement is finished, make sure that the gear rotates smoothly. (Refer to Figure 6.)

Note: Do not reuse the used lock washers for remounting.
Take care to avoid damage by piercing and tearing.

b. Replacement of the RF solenoid

- (1) Remove two solders ④ and remove the RF solenoid from the bottom cover by pulling it up as shown in Figure 6.
- (2) Replace the solenoid with a new one, and remount it following the removal steps in the reverse order as shown in Figure 6.

Note: When removing solder ④, set the temperature of the soldering iron to $350^{\circ} \pm 10^{\circ}$ and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged.

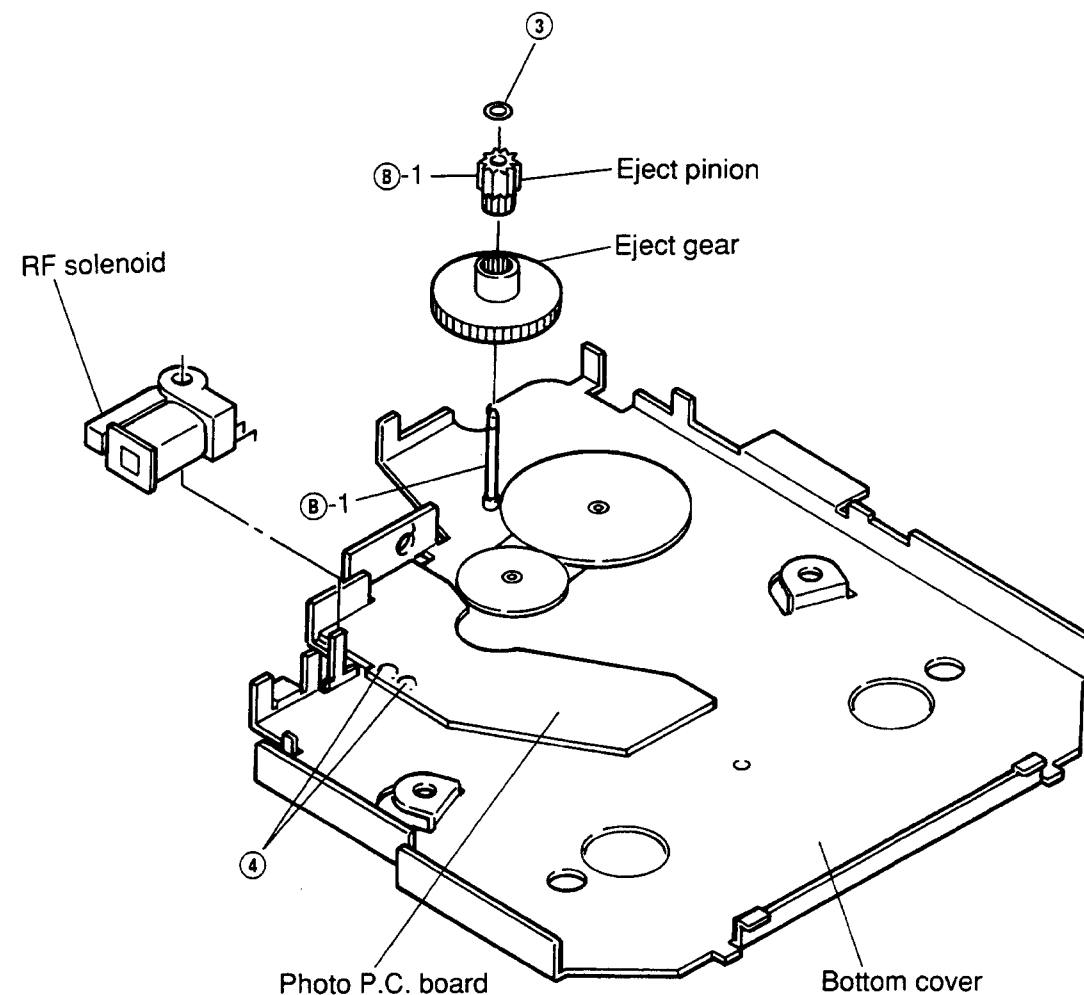


Figure 6

c. Replacement of the photo sensor

- (1) Remove four solders ⑤ as shown in Figure 7.
- (2) Remove the photo guide together with the photo sensor from the photo P.C. board as shown in Figure 7.
- (3) Insert the new photo sensor into the photo guide, and bend the legs of the photo sensor in the direction marked ⑧-2 as shown in Figure 7.
- (4) Insert the photo guide into the P.C. board and solder the legs so that the photo sensor is set as indicated by [] in Figure 7.

Note: When using the soldering iron, set the temperature of the soldering iron to $350^{\circ} \pm 10^{\circ}$ and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged. Also take care that the photo guide is properly fixed and straight.

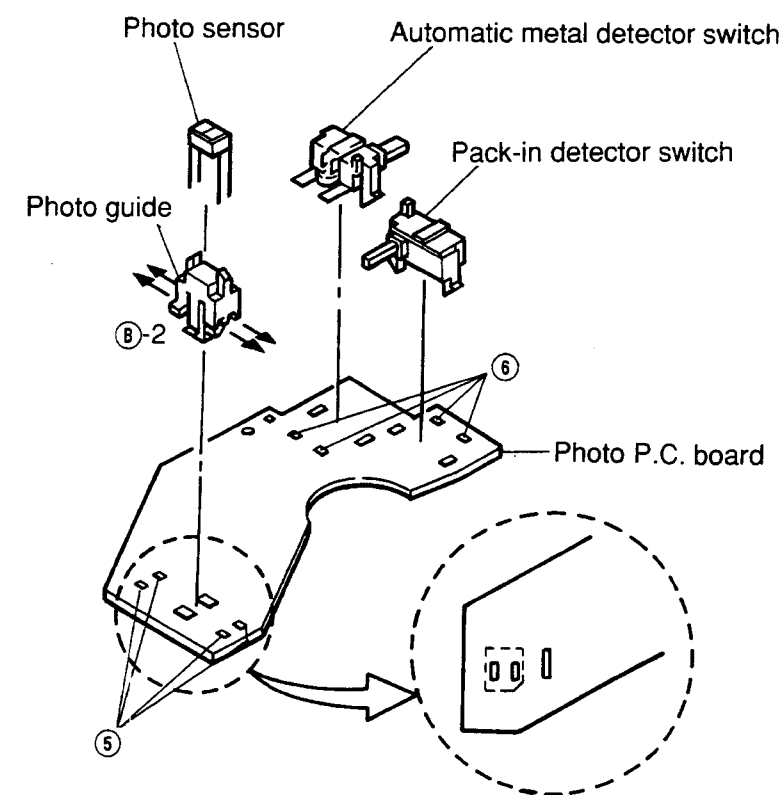


Figure 7

d. Replacement of the detector switch (Automatic metal pack-in)

- (1) Remove 4 solders ⑥ with which the switch is fixed as shown in Figure 7.
- (2) Prepare the terminals of the switch of the new solder as shown in Figure 8.
- (3) After that, insert the switch into the photo P.C. board, and solder the terminals.

Note: When using the soldering iron, refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Also take care that the switch guide is properly fixed and straight.

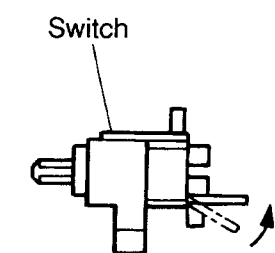


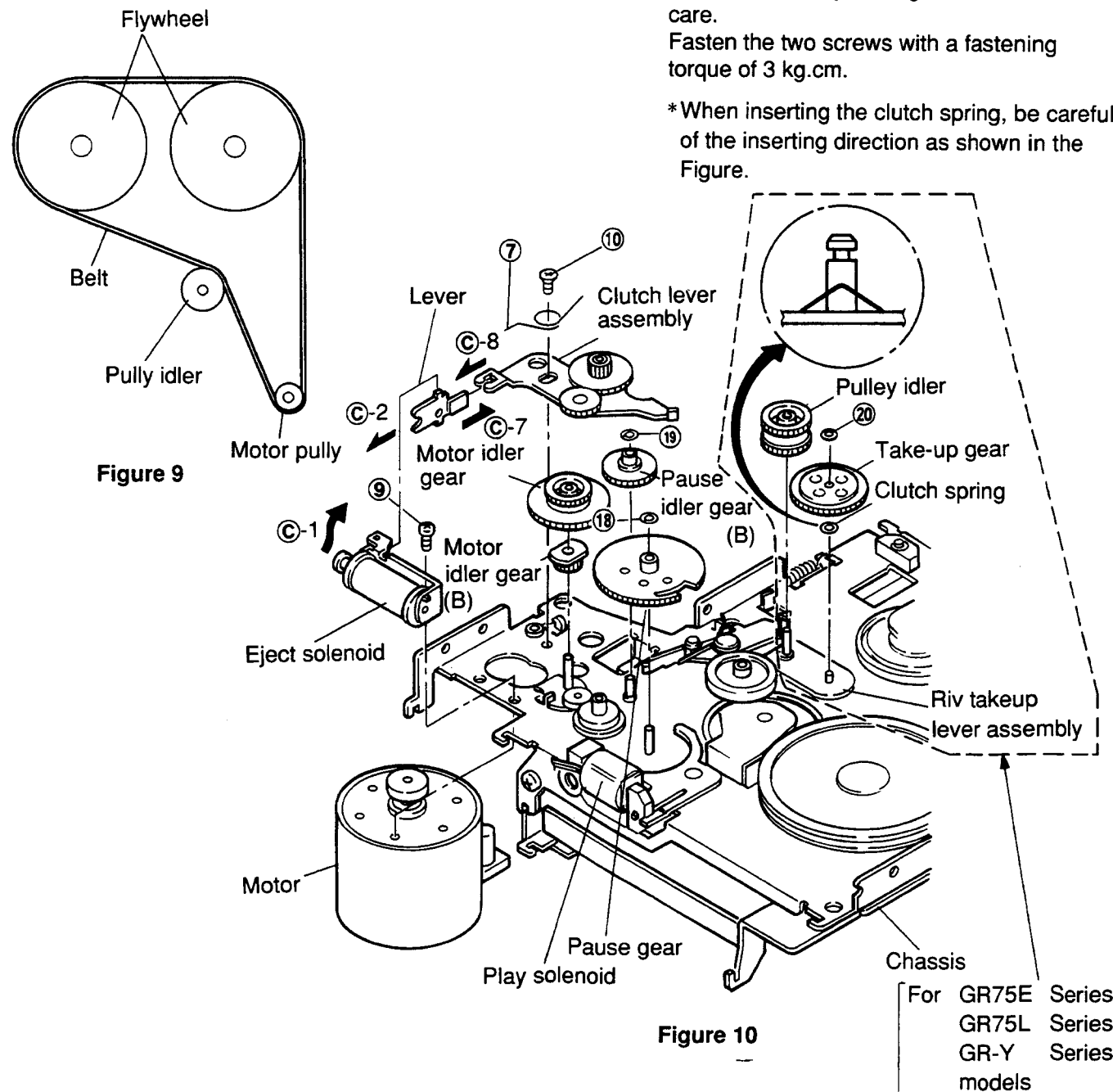
Figure 8

3. Replacement of the mounting parts on the rear of the main chassis

a. Replacement of the belt

- (1) After removing the bottom cover, remove the belt.
- (2) Clean the new belt with absolute alcohol, and fix it as shown in Figure 9.

Note: When fixing the belt, make sure that it is not twisted or dirty. When removing the belt, do not turn up the front of the chassis.



b. Replacement of the motor

- (1) After removing the belt, remove spring ⑦ as shown in Figure 10.
- (2) Remove solder ⑧-1, and remove the parallel wire (5P) from the control P.C. board as shown in Figure 11.
- (3) Remove two screws ⑨ and ⑩, and remove the motor, taking care not to damage the motor idler gear. (Refer to Figure 10.)
- (4) Mount the new motor following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Since the parallel wire is very easily damaged, handle it with care.
Fasten the two screws with a fastening torque of 3 kg.cm.

*When inserting the clutch spring, be careful of the inserting direction as shown in the Figure.

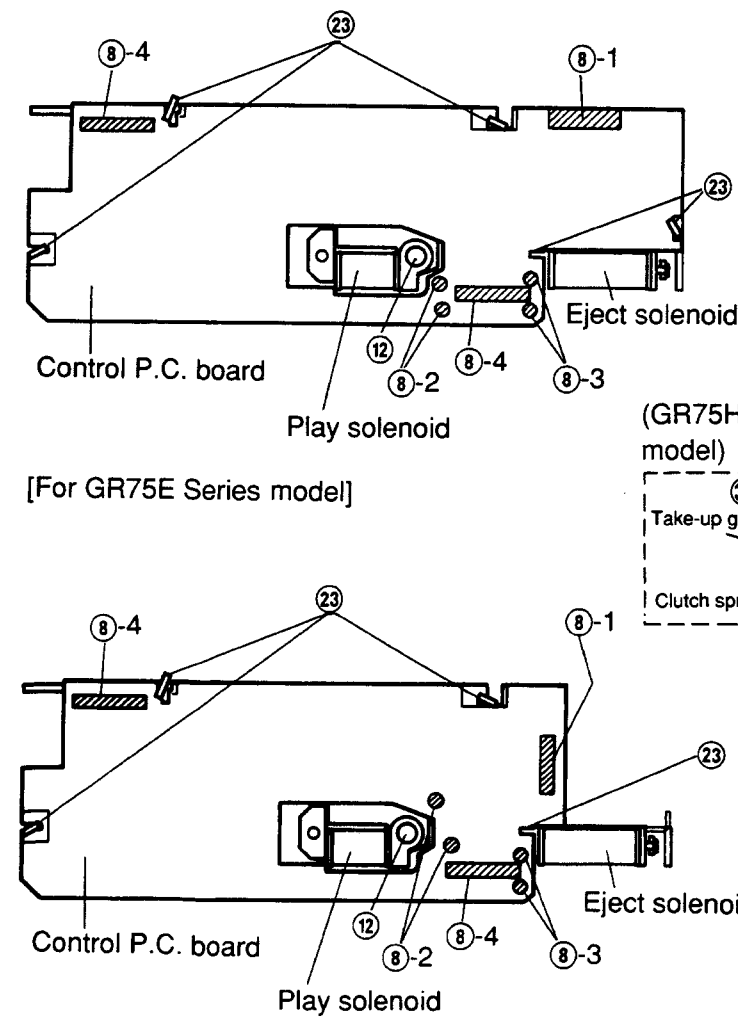
c. Replacement of the flywheels

- (1) After removing the belt, pull out the two flywheels. Take care not to loose the polyslider washer ⑪ located between the flywheel and the chassis. (Refer to Figure 12.)
- (2) Fix the polyslider washer to the new flywheel and mount the flywheel to the chassis.

d. Replacement of the play solenoid

- (1) Remove the two solders ⑧-2 as shown in Figure 11.
- (2) Remove one screw ⑫ and remove the solenoid as shown in Figure 11.
- (3) Mount the new solenoid following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 2.3 kg.cm.

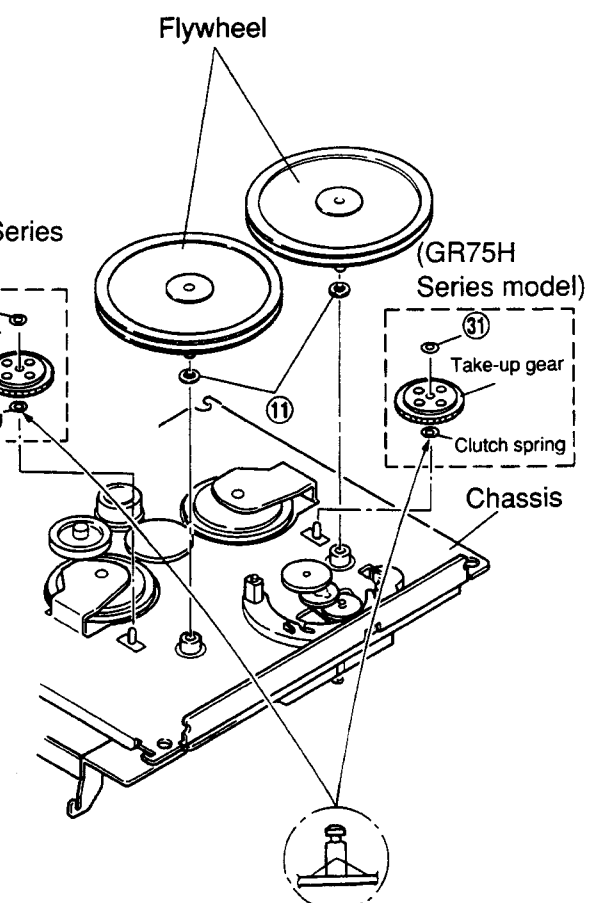


[For GR75L Series
GR-Y Series
GR75H Series models]

e. Replacement of the eject solenoid

- (1) Remove two solders ⑧-3. Take care not to loose the tube that protects the wire. (Refer to Figure 11.)
- (2) Remove screw ⑨ and remove the solenoid as shown in Figure 10.
- (3) Align position ①-1 of the new solenoid with position ①-2 of the lever and fasten the screw as shown in Figure 10.
- (4) Lead the wire through the tube and solder it.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 3 kg.cm. As the solenoid wires are not insulated, do not let them cross each other.



4. Replacement of the parts mounted on the front of the main chassis

a. Replacement of the audio P.C. board

- (1) Remove two solders ②① and remove the parallel wire (7P) and the head P.C. board as shown in Figure 16.
- (2) Adjust the two claws ②② to the rectangular holes on the P.C. board and remove the P.C. board as shown in Figure 16.
- (3) After replacement, mount the new P.C. board following the removal steps in the reverse order.

Note: The head P.C. board and the parallel wire are easily damaged. Handle them with care. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board.

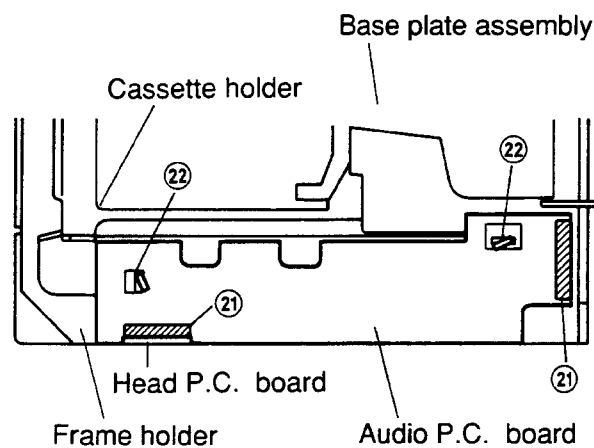


Figure 16

b. Replacement of the control P.C. board

- (1) Remove seven solders ⑧ and remove the three parallel wires and the wires of the eject solenoid and of the play solenoid as shown in Figure 11.
- (2) Remove five claws ②③ and remove the P.C. board as shown in Figure 11. [For GR75E Series model] Remove four claws ②③ and remove the P.C. board as shown in Figure 11. [For GR75L Series, GR-Y Series, GR75H Series models]
- (3) After replacing the old P.C. board with a new one, mount it following the removal steps in the reverse order.

Note: As mentioned in Item 4-a, handle the parallel wires carefully, and be sure that the temperature of the soldering iron and the soldering time are proper. As the wires of the eject solenoid are not insulated, do not let them cross each other.

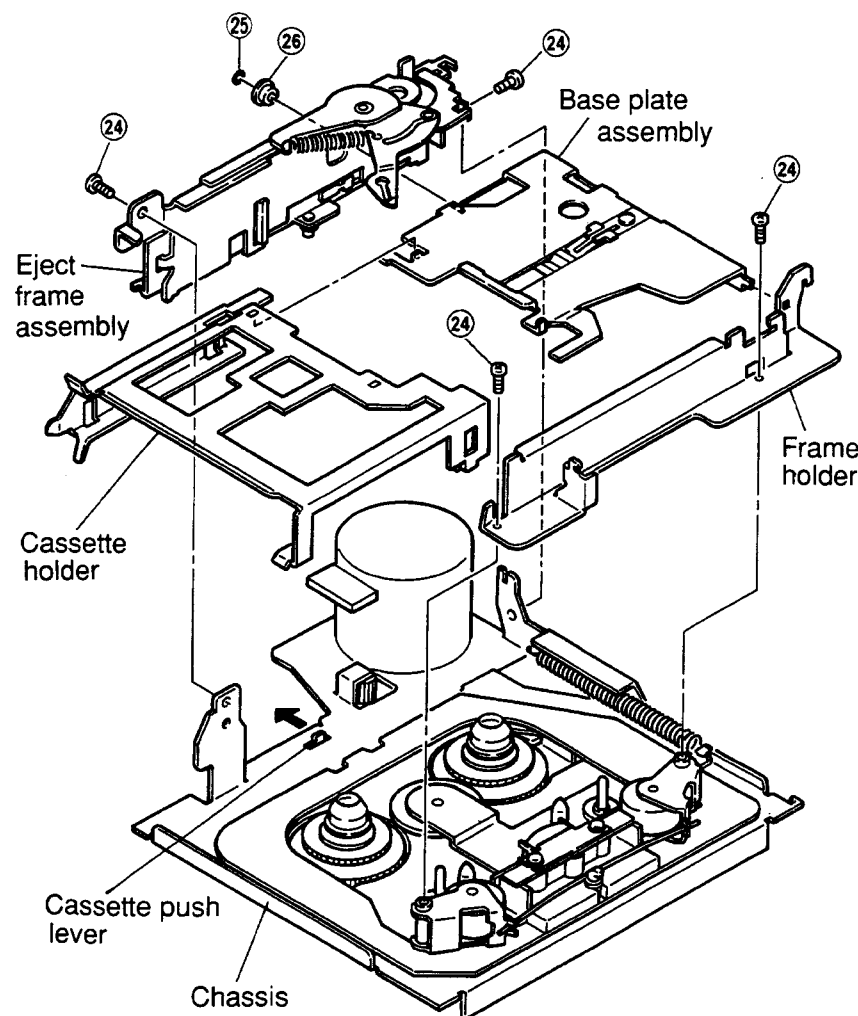


Figure 17

c. Disassembly and assembly of the cassette holder

- (1) Remove four screws ②④ and remove the eject frame assembly and the frame holder as shown in Figure 17.
- (2) Remove M1.2 lock washer ②⑤ and plate base roller ②⑥ and remove the cassette holder and the base plate assembly as shown in Figure 17.
- (3) Remount them following the removal steps in the reverse order.

Notes:

1. When mounting the cassette holder and the base plate, insert the slider shaft into the eject arm and fix them turning the slider shaft in the direction indicated by the arrow in the figure. Make sure that the cassette holder and the base plate are in the cassette-in mode during this operation. (Refer to Figure 18).
2. When mounting the eject frame assembly, push the cassette push lever in the direction indicated by the arrow in the Figure 17.
3. When mounting the base plate assembly and the eject frame assembly, or when mounting the eject frame assembly to the chassis, do not apply excessive force to avoid deformations of the eject arm and the frame.
4. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

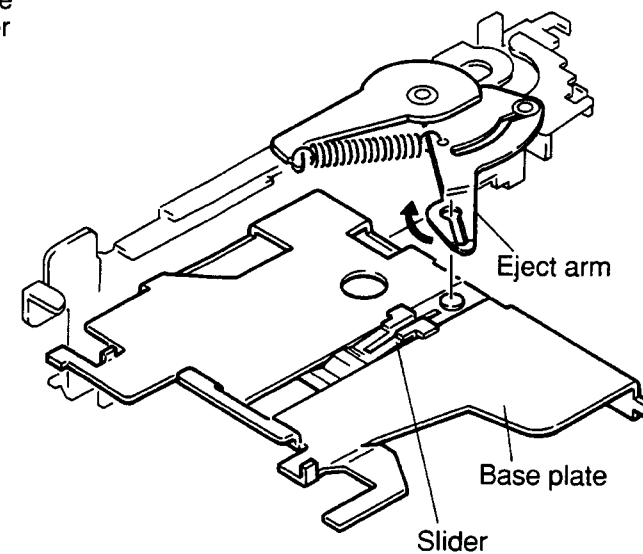


Figure 18

d. Replacement of the reels

- (1) Remove M1.7 two lock washers ②⑥ (Refer to figure 19).
- (2) Move the select lever in the direction marked ①-1 in the Figure and remove the reel by gripping the reel gear as shown in Figure 19.
- (3) After replacement, mount the new reels following the removal steps in the reverse order.
- (4) After mounting, check the tape speed and the wow and flutter with test tape MTT-111.

Note: Since the reel is easily loosened if the cap is gripped, always handle it gripping the gear. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

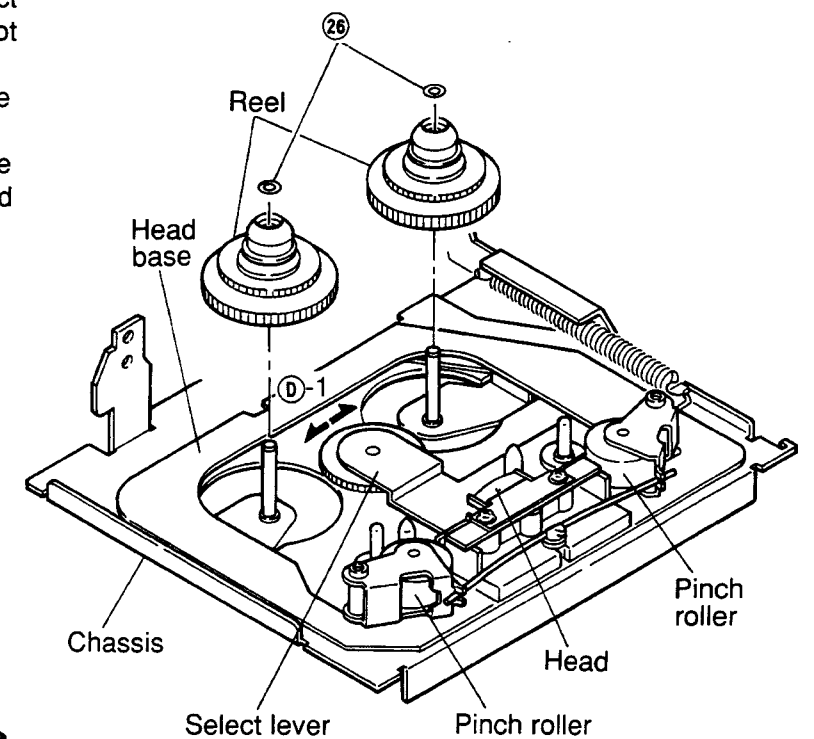


Figure 19

e. Replacement of the pinch rollers

- (1) Remove pinch roller spring ②⑦ as shown in Figure 20.
- (2) Remove M3.1 two lock washers ②⑧ and remove the pinch roller as shown in Figure 20.
- (3) Mount the pinch rollers following the removal steps in the reverse order.
Apply insulation coating to the position ①-2 of the pinch roller as shown in Figure 20.

Note: Make sure that the pinch rollers are thoroughly fixed and that they are not deformed. Do not reuse used lock washers. Take care to avoid damage by piercing and tearing.

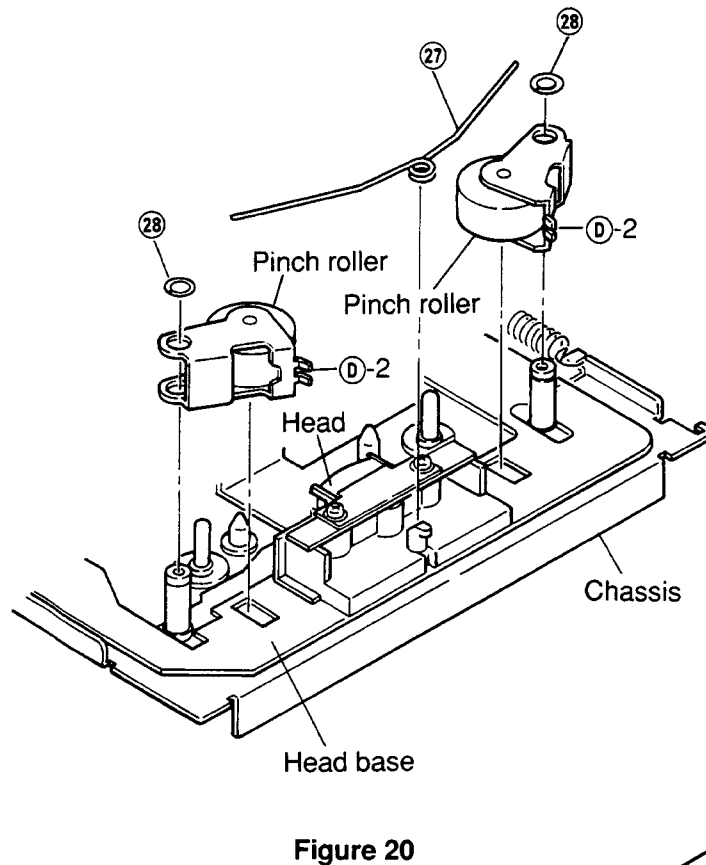


Figure 20

f. Replacement of the head

- (1) After removing the pinch roller spring, remove two screws ②⑨ as shown in Figure 21.
- (2) Remove solder ③⑩ and remove the head from the head P.C. board as shown in Figure 22.
- (3) After replacement, mount the new head following the removal steps in the reverse order.

Notes: 1. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board. Make sure that the head P.C. board is not lifted.

2. Fasten the two screws with a fastening torque of 2.3 kg.cm. Note that the tension of the head spring can be decreased if the screws are fastened too strongly.

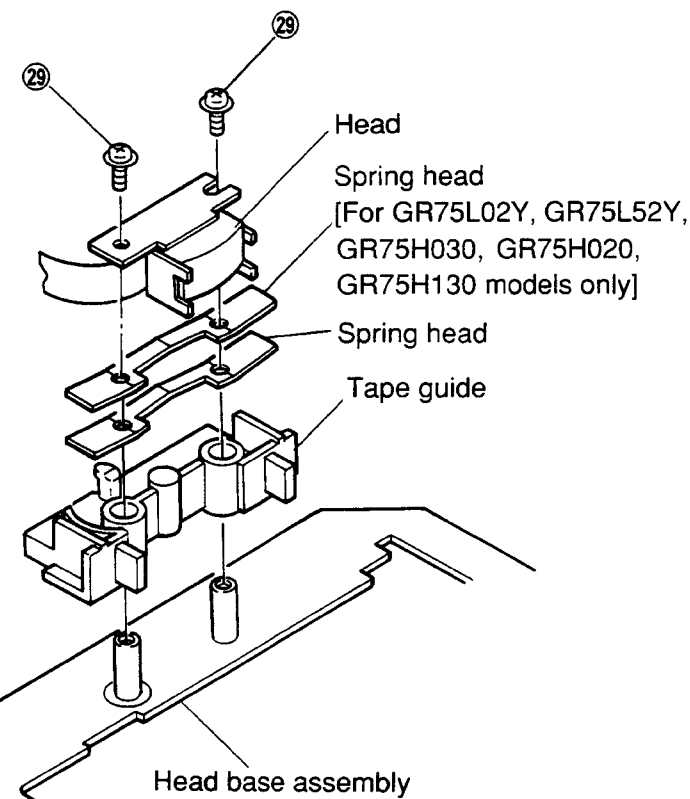


Figure 21

- (4) Adjust the height of the head as shown in Figures 23, 24 and 25.

- ① Place the height adjustment gauge (AI-500) on the head base, and adjust the height so that the check bar fits in the tape head guide smoothly.
- ② When the check bar touches the top (or bottom) of the tape guide, insert a spacer (t 0.1 mm or polislider washer t 0.13 mm). If necessary, remove the spacer.

Note: If you do not have a height gauge like described in (4)-①, run the tape at normal speed and adjust the height of the head and the tape head guide so that the tape does not curl.

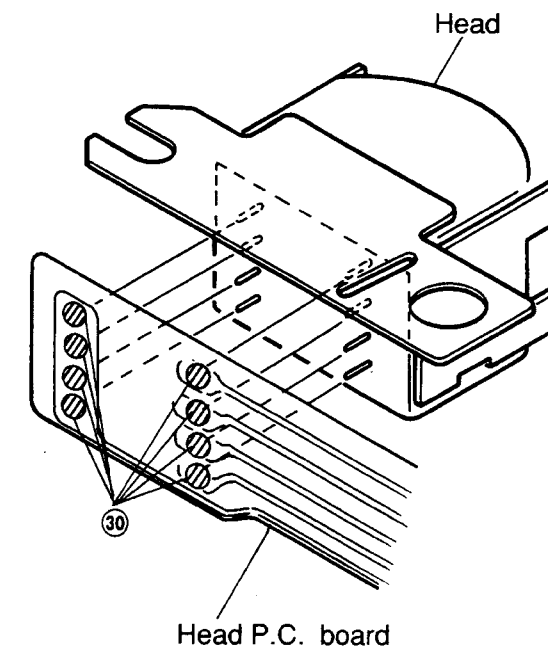


Figure 22

- (5) After having assembled the complete mechanism, adjust the angle of the head with test tape MTT-113C. (Refer to chapter "Adjustment of the head angle".) After the adjustment, apply the screw lock and fix the screws.

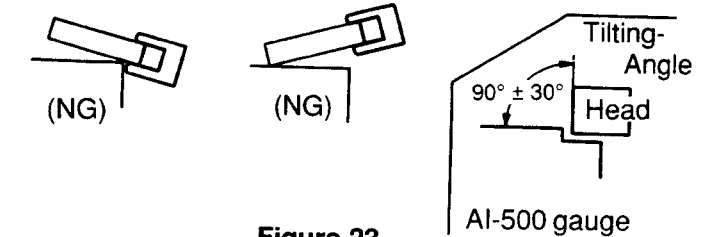


Figure 23

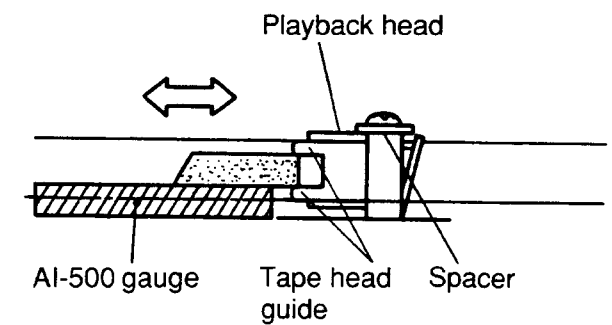
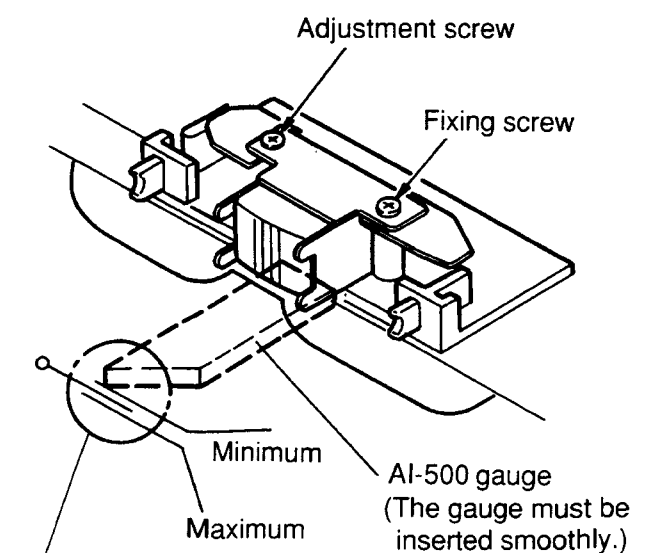


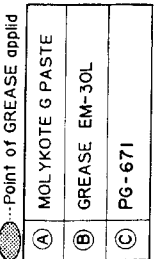
Figure 24



The nosepiece of the gauge must be between the minimum and maximum positions.

Figure 25

● For GR75E010/01A/020 Models



Cassette Deck Assembly Parts List (GR75E Series) (1/4)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roller, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A31756W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy., Riv Lever R/F Sol
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear, Planet
216	3-E	41A10097W02	Spring, Clutch
217	3-E	04B41345P35	Washer, Lock(M1.7)
218	3-E	01A30824W01	Assy., Riv Lever Reverse
● 219	4-B	07B40283W01	Holder, Cassette
■ 219	4-B	07B40283W01	Holder, Cassette
▲ 219	4-B	07B10074W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A63281F01	Roller, Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject A
225	4-D	43A10360W01	Roller, Eject B
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject C
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft, Slider
232	4-A	01A10212W01	Assy., Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A10148W01	Assy., Riv Eject Arm A
235	3-B	01B30863W02	Assy., Pinch Roller
236	4-C	45A10087W01	Lever Pack In SW
237	4-F	44A12975W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy., Riv Lever Pause
240	2-D	45A40725W01	Lever, Play Sol
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer Polyslider (M2.1)
243	1-G	01A10368W01	Assy., Flywheel
244	3-F	44A10141W01	Gear, Eject Idler
245	3-E	01A10205W02	Assy., Riv Lever Clutch A

Symbol No.	IN-dex	Part No.	Description
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V11500W18	Assy., GR Control P.C. Board
248	3-G	43A41656W01	Spacer, UHMW
249	3-F	44A11063W01	Gear, Bottom A
250	3-F	44A11064W01	Gear, Bottom B
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy., Riv. Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B30484W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler A
265	3-D	44A10379W01	Gear, Pause Idler B
266	3-F	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
● 270	3-A	01V14700W68	Assy., GR Audio P.C. Board
■ 270	3-A	01V11500W19	Assy., GR Audio P.C. Board
▲ 270	3-A	01V11500W19	Assy., GR Audio P.C. Board
271	3-E	41A30475W01	Spring, Clutch
272		04B41345P15	Washer, Lock(M1.2)
273	4-D	04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276		04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P37	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F53	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas Push
286	2-C	41B10386W02	Spring, Sub Head

Symbol No.	IN-dex	Part No.	Description
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B30863W01	Assy., Pinch Roller
290	2-B	84T25151W01	Head P.C. Board
291	4-E	01T35403W01	Assy., Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
293	4-D	01A30161W01	Assy., Riv Lever Take Up
294	3-F	04B41345P34	Washer Lock(M1.2)
296	4-D	41A40910W01	Spring, Clutch
297	4-E	43A41543W01	Washer, Sol(M1.2)
298	3-E	47A41458W01	Pin, Take Up
299	4-C	43A40388W01	Spacer, Polyslider
300	2-D	43A41744W01	Lock, Solenoid
Miscellaneous			
● 501	2-B	88T15971W01	Head
■ 501	2-B	88T10373W01	Head
▲ 501	2-B	88T10373W01	Head
502	4-E	01V11500W64	Assy., Motor(Main, 13.2V-80mA)
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy.
505	4-F	40T15382W01	SW., Detector (Pack Down)
506	4-G	40T15382W01	SW., Detector(Metal)
507	2-C	40T15222W01	SW., Detector (Pack In)
508	2-D	01T15249W01	Assy., Play Solenoid
509	4-D	01T10369W02	Assy., Eject Solenoid

Notes: ● : For GR75E020 model only ■ : For GR75E010 model only
▲ : For GR75E01A model only Others : CommonNotes: ● : For GR75E020 model only ■ : For GR75E010 model only
▲ : For GR75E01A model only Others : Common

Exploded View (GR75L Series) (2/4)

● For GR75L020/02A Models

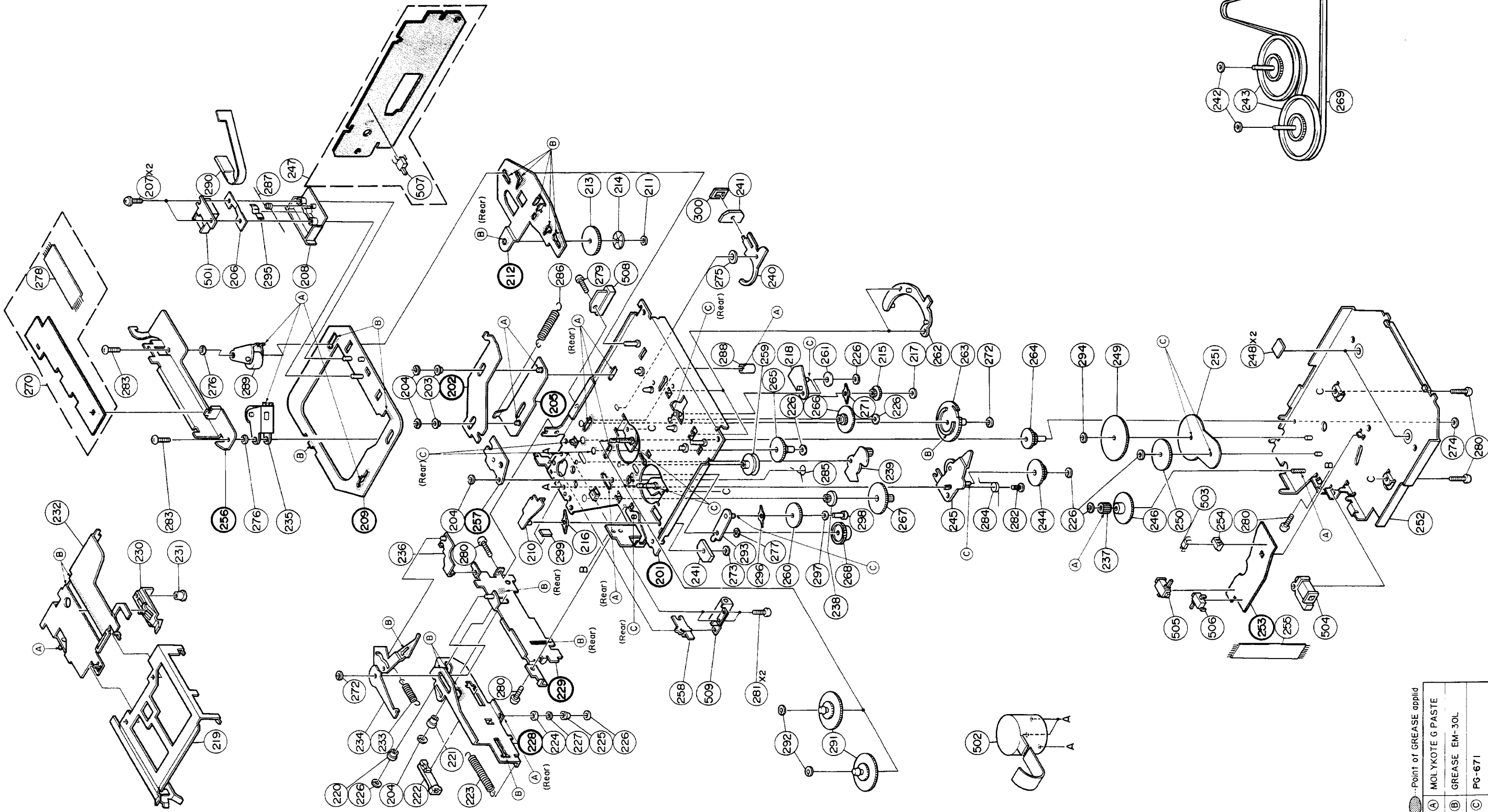
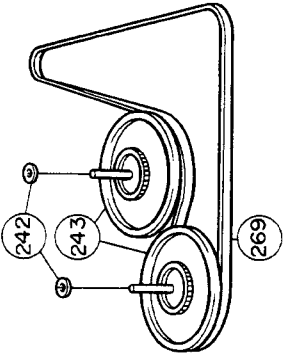
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2

3

4

5



Point of GREASE applyd	
(A)	MOLYKOTE G PASTE
(B)	GREASE EM-30L
(C)	PG-671

Cassette Deck Assembly Parts List (GR75E Series) (2/4)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll. Sub Head
204		04B41345P01	Washer. Lock(M1.2)
206	2-B	41A31756W01	Spring. Head
207	2-B	03S40019G03	Screw. F-Locks(M2x4)
208	2-B	43B12545W01	Tape. Guide
210	4-C	01A10206W01	Assy.. Riv Lever R/F Sol.
211	2-D	04B41345P29	Washer. Lock(M2.6)
213	2-D	44A10295W01	Gear. Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear. Planet
216	3-E	41A10097W02	Spring. Clutch
217	3-E	04B41345P35	Washer. Lock(M1.7)
218	3-E	01A30824W01	Assy.. Riv Lever Reverse
219	4-B	07B40283W01	Holder. Cassette
220	5-B	43A12583W01	Roller. Eject
221	5-C	43A63281F01	Roller. Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring. GR(Rack)
224	4-C	43A10121W01	Roller. Eject(A)
225	4-D	43A10360W01	Roller. Eject(B)
226		04B41345P11	Washer. Lock(M1.2)
227	4-D	43A12377W01	Roller. Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft. Slider
232	4-A	01A10212W01	Assy.. Riv Plate Base
233	4-C	41B10386W01	Spring. Eject Arm
234	4-B	01A21754W01	Assy.. Riv Eject Arm(A)
235	3-B	01B30863W02	Assy.. Pinch Roller
236	4-C	45A10087W01	Lever. Pack In SW.
237	4-F	44A20314W01	Pinion. Eject
238	4-E	44A13617W01	Gear. Motor Idler(B)
239	3-E	01A10201W02	Assy.. Riv Lever Pause
240	2-E	45A40725W01	Lever. Play Sol
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer. Polyslider (M2.1)
243	1-G	01A10368W01	Assy.. Flywheel
244	3-F	44A10141W01	Gear. Eject Idler
245	3-E	01A10205W02	Assy.. Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear. Eject
247	2-B	01V23700W03	Assy.. GR Control P.C. Board

Notes : ◆ ; For GR75L020 model only ○ ; For GR75L02A model only
Others ; Common

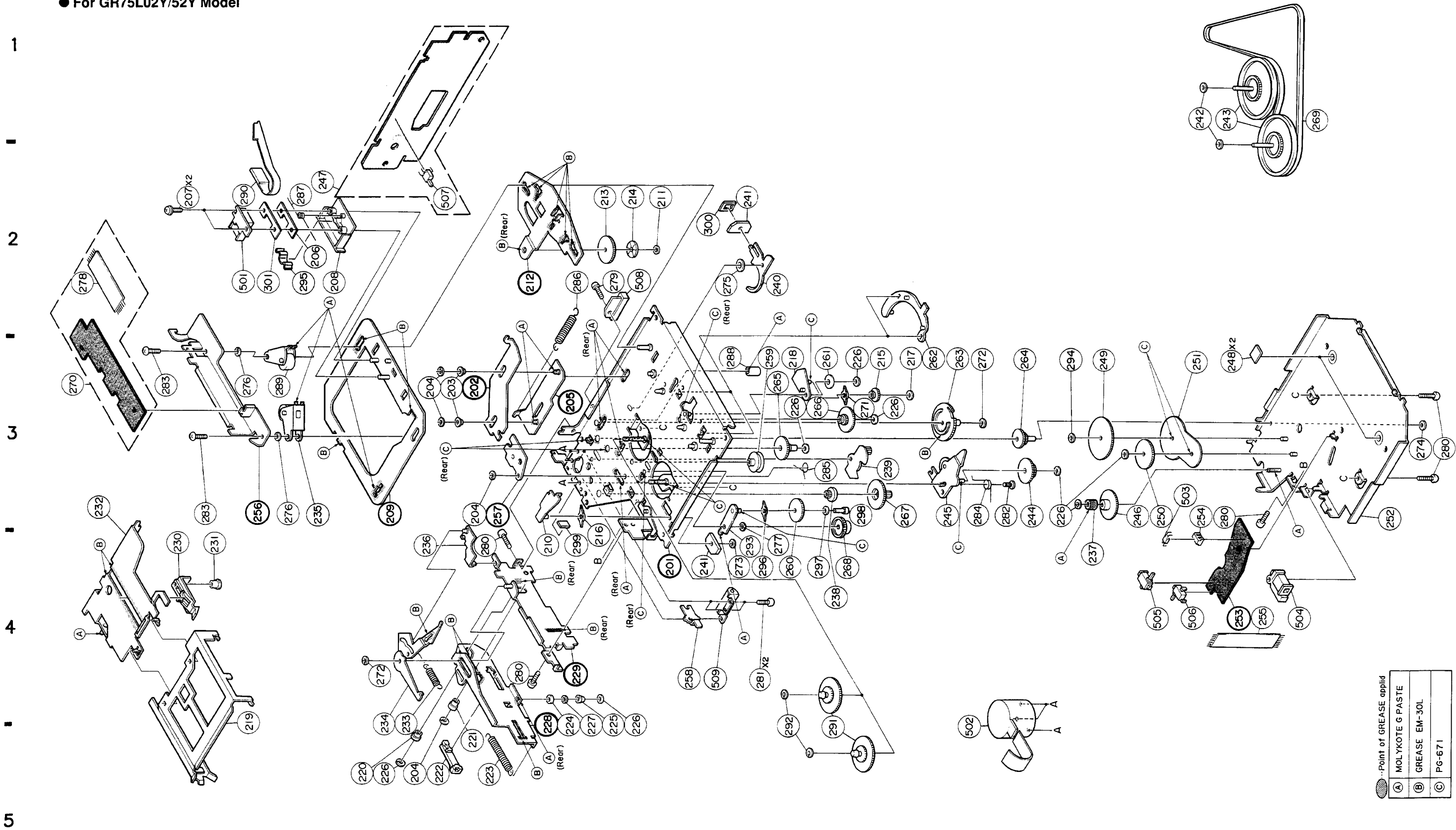
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249	3-F	44A11063W01	Gear. Bottom(A)
250	3-F	44A11064W01	Gear. Bottom(B)
251	3-G	34A11122W02	Washer. GR
252	3-H	01A10210W02	Assy.. Riv. Cover Bottom
254	3-G	15B11065W01	Guide. Photo
255	4-G	30T15126W01	Wire. PC Sensor(7P)
258	4-D	45A10101W01	Lever. Eject Sol.
259	3-D	49A10131W01	Pulley. Idler
260	4-E	44A10133W01	Gear. Take Up
261	3-E	44A10134W01	Gear. Sun
262	3-E	44B10135W01	Gear. Fix
263	3-E	44B21670W01	Gear. Pause
264	3-F	44A10137W01	Gear. Pause Idler(A)
265	3-D	44A10379W01	Gear. Pause Idler(B)
266	3-E	44A10138W01	Gear. Reverse Idler
267	3-E	44A10139W01	Gear. Motor Idler
268	4-E	44A11062W01	Gear. Reel Idler
269	1-G	42A10380W01	Belt. GR
270	3-A	01V14700W68	Assy.. GR Audio P.C. Board
271	3-E	41A30475W01	Spring. Clutch
272	3-F	04B41345P15	Washer. Lock(M1.2)
273	4-D	04B41345P02	Washer. Lock(M1.7)
274	3-H	04B41345P17	Washer. Lock(M1)
275	2-D	04B41345P30	Washer. Lock(M3.1)
276		04B41345P32	Washer. Lock(M3.1)
277	4-E	04B41345P37	Washer. Lock(M2.1)
278	2-A	30T15126W02	Wire. PC Joint 7P
279	2-D	03S44205G78	Screw. Pan(M2x6)
280		03S44205G30	Screw. Pan(M2.6x4)
281	4-D	03S72235F53	Screw. Pan(M2x3.3)
282	3-F	03A12132W02	Screw. Eject Clutch (M2x2.3)
283		03S43997P64	Screw. Pan(M1.7x3)
284	3-F	41A10384W01	Spring. Eject Clutch
285	3-E	41A10385W01	Spring. Cas. Push
286	2-C	41B10386W02	Spring. Sub Head
287	2-B	41A10387W01	Spring. Pinch Roller
288	3-D	43A12719W01	Roller. Pause
289	3-B	01B30863W01	Assy.. Pinch Roller
290	2-B	84T25151W01	Head P.C. Board

Symbol No.	IN-dex	Part No.	Description
291	4-E	01T35403W02	Assy.. Reel
292	4-E	04B41345P12	Washer. Lock(M1.7)
293	4-D	01A30161W01	Assy.. Riv Lever Take Up
294	3-F	04B41345P34	Washer. Lock(M1.2)
295	2-B	26A20537W01	Shield. Plate
296	4-D	41A40910W01	Spring. Clutch
297	4-E	43A41543W01	Washer. Som(M1.2)
298	3-E	47A41458W01	Pin. Take Up
299	3-D	43A40388W01	Spacer. Polyslider
300	2-D	43A41744W01	Lock. Solenoid
Miscellaneous			
◆ 501	2-B	88T15971W01	Head
○ 502	4-E	01V23900W60	Assy.. Motor(13.2V-105mA)
○ 502	4-E	01V43400W37	Assy.. Motor(13.2V-88mA)
503	3-C	51T15144W01	Sensor. Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW.. Detector (Pack Down)
506	4-G	40T15382W01	SW.. Detector (Metal)
507	2-C	40T15222W01	SW.. Detector (Pack In)
508	2-D	01T15249W01	Assy.. Play Solenoid
509	4-D	01T10369W02	Assy.. Eject Solenoid

Notes : ◆ ; For GR75L020 model only ○ ; For GR75L02A model only
Others ; Common

Exploded View (GR-Y Series) (3/4)

● For GR75L02Y/52Y Model



Cassette Deck Assembly Parts List (GR-Y Series) (3/4)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll. Sub Head
204		04B41345P01	Washer. Lock(M1.2)
206	2-B	41A31756W01	Spring. Head
207	2-B	03S40019G03	Screw. F-Locks(M2x4)
208	2-B	43B12545W01	Tape. Guide
210	4-C	01A10206W01	Assy.. Riv Lever R/F Sol.
211	2-D	04B41345P29	Washer. Lock(M2.6)
213	2-D	44A10295W01	Gear. Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear. Planet
216		41A10097W02	Spring. Clutch
217	3-E	04B41345P35	Washer. Lock(M1.7)
218	3-E	01A30824W01	Assy.. Riv Lever Reverse
219	4-B	07B40283W01	Holder. Cassette
220	5-B	43A12583W01	Roller. Eject
221	5-C	43A63281F01	Roller. Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring. GR(Rack)
224	4-C	43A10121W01	Roller. Eject(A)
225	4-D	43A10380W01	Roller. Eject(B)
226		04B41345P11	Washer. Lock(M1.2)
227	4-D	43A12377W01	Roller. Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft. Slider
232	4-A	01A10212W01	Assy.. Riv Plate Base
233	4-C	41B10386W01	Spring. Eject Arm
234	4-B	01A21754W01	Assy.. Riv Eject Arm(A)
235	3-B	01B30863W02	Assy.. Pinch Roller
236	4-C	45A10087W01	Lever. Pack In SW.
237	4-F	44A20314W01	Pinion. Eject
238	4-E	44A13617W01	Gear. Motor Idler(B)
239	3-E	01A10201W02	Assy.. Riv Lever Pause
240	2-D	45A40725W01	Lever. Play Sol.
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer. Polyslider (M2.1)
243	1-G	01A10368W01	Assy.. Flywheel
244	3-F	44A10141W01	Gear. Eject Idler
245	3-E	01A10205W02	Assy.. Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear. Eject
☆ 247	2-B	01V23700W03	Assy.. GR Control P.C. Board

Notes:☆: For GR75L02Y model only ◇: For GR75L52Y model only

Others: Common

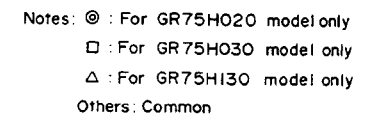
Symbol No.	IN-dex	Part No.	Description
◇ 247		01V44200W74	Assy.. GR Control P.C. Board
248	3-G	43A41656W01	Spacer. UHMW
249	3-F	44A11063W01	Gear. Bottom(A)
250	3-F	44A11064W01	Gear. Bottom(B)
251	3-G	34A11122W02	Washer. GR
252	3-H	01A10210W02	Assy.. Riv. Cover Bottom
254	3-G	15B11065W01	Guide. Photo
255	4-G	30T15126W01	Wire. PC Sensor(7P)
258	4-D	45A10101W01	Lever. Eject Sol.
259	3-D	49A10131W01	Pulley. Idler
260	4-E	44A10133W01	Gear. Take Up
261	3-E	44A10134W01	Gear. Sun
262	3-E	44B10135W01	Gear. Fix
263	3-E	44B21670W01	Gear. Pause
264	3-F	44A10137W01	Gear. Pause Idler(A)
265	3-D	44A10379W01	Gear. Pause Idler(B)
266	3-E	44A10138W01	Gear. Reverse Idler
267	3-E	44A10139W01	Gear. Motor Idler
268	4-E	44A11062W01	Gear. Reel Idler
269	1-G	42A10380W01	Belt. GR
270	3-A	01V33300W03	Assy.. GR Audio P.C. Board
271	3-E	41A30475W01	Spring. Clutch
272	3-F	04B41345P15	Washer. Lock(M1.2)
273		04B41345P02	Washer. Lock(M1.7)
274	3-H	04B41345P17	Washer. Lock(M1)
275	2-D	04B41345P30	Washer. Lock(M3.1)
276	3-B	04B41345P32	Washer. Lock(M3.1)
277	4-E	04B41345P37	Washer. Lock(M2.1)
278	2-A	30T15126W02	Wire. PC Joint 7P
279	2-D	03S44205G78	Screw. Pan(M2x6)
280		03S44205G30	Screw. Pan(M2.6x4)
281	4-D	03S72235F53	Screw. Pan(M2x3.3)
282	3-F	03A12132W02	Screw. Eject Clutch (M2x2.3)
283		03S43997P64	Screw. Pan(M1.7x3)
284	3-F	41A10384W01	Spring. Eject Clutch
285	3-E	41A10385W01	Spring. Cas. Push
286	2-C	41B10386W02	Spring. Sub Head
287	2-B	41A10387W01	Spring. Pinch Roller
288	3-D	43A12719W01	Roller. Pause
289	3-B	01B30863W01	Assy.. Pinch Roller
290	2-B	84T35271W01	Head P.C. Board

Symbol No.	IN-dex	Part No.	Description
291	4-E	01T35403W02	Assy.. Reel
292	4-E	04B41345P12	Washer. Lock(M1.7)
293	4-D	01A30161W01	Assy.. Riv Lever Take Up
294	3-F	04B41345P34	Washer. Lock(M1.2)
295	2-B	26A20537W01	Shield. Plate
296	4-D	41A40910W01	Spring. Clutch
297	4-E	43A41543W01	Washer. Som(M1.2)
298	3-E	47A41458W01	Pin. Take Up
299	3-C	43A40388W01	Spacer. Polyslider
300	2-D	43A41744W01	Lock. Solenoid
301	2-B	41A41416W01	Spring. Head
Miscellaneous			
☆ 501	2-B	88T15971W01	Head
◇ 502	4-E	01V23900W60	Assy.. Motor(13.2V-105mA)
◇ 502	4-E	01V44200W73	Assy.. Motor(13.2V-80mA)
503	3-G	51T15144W01	Sensor. Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW.. Detector (Pack Down)
506	4-G	40T15382W01	SW.. Detector (Metal)
507	2-C	40T15222W01	SW.. Detector (Pack In)
508	2-D	01T15249W01	Assy.. Play Solenoid
509	4-D	01T10369W02	Assy.. Eject Solenoid

Notes:☆: For GR75L02Y model only ◇: For GR75L52Y model only

Others: Common

● For GR75H030/020/130 Model



(A)	MOLYKOTE G PASTE
(B)	GREASE EM-30L
(C)	PG-67I

Cassette Deck Assembly Parts List (GR75H Series) (4/4)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A31453W01	Roller, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A31756W01	Spring, Head
207	2-A	03A38021W01	Screw, Flange(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A30462W01	Assy.. Riv Lever R/F Sol
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear, Planet
216		41A30475W01	Spring, Clutch
218	3-E	01A30824W01	Assy.. Riv Lever Reverse
⊙ 219	4-B	07B40283W01	Holder, Cassette
□ 219	4-B	07B40283W01	Holder, Cassette
△ 219	4-B	07B40012W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A63281F01	Roller, Plate Base
222	5-C	44A82206F01	Rack
⊙ 223	5-C	41B10386W03	Spring, GR(Rack)
□ 223	5-C	41B10386W03	Spring, GR(Rack)
△ 223	5-C	41B10386W04	Spring, GR(Rack)
224	5-C	43A10121W01	Roller, Eject A
225	5-D	43A10360W01	Roller, Eject B
226		04B41345P11	Washer, Lock(M1.2)
227	5-D	43A12377W01	Roller, Eject C
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft, Slider
⊙ 232	4-A	01A10212W01	Assy.. Riv Plate Base
□ 232	4-A	01A10212W01	Assy.. Riv Plate Base
△ 232	4-A	01A40024W01	Assy.. Riv Plate Base
⊙ 233	5-C	41B10386W01	Spring, Eject Arm
□ 233	5-C	41B10386W01	Spring, Eject Arm
△ 233	5-C	41B63283F11	Spring
⊙ 234	5-C	01A30883W01	Assy.. Riv Eject Arm B
□ 234	5-C	01A30883W01	Assy.. Riv Eject Arm B
△ 234	5-C	01A40021W01	Assy.. Riv Eject Arm D
235	3-B	01B30863W02	Assy.. Pinch Roller
236	4-C	45A10087W01	Lever Pack In SW
237	4-F	44A20314W01	Pinion, Eject
238	2-B	26A20537W01	Shield, plate
239	5-D	01A40881W01	Assy.. Riv RF Link
240	2-D	45A40725W01	Lever, Play Sol.
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer, Polyslider(M2.1)
243	1-G	01A30488W01	Assy.. Flywheel

Symbol No.	IN-dex	Part No.	Description
244	3-F	44A10141W01	Gear, Eject Idler
245	3-E	01A10205W02	Assy.. Riv Lever Clutch A
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V33500W45	Assy.. GR Control P.C. Board
248	3-G	43A41656W01	Spacer, UHMW
249	5-D	44A30481W01	Gear, RF Idler
250	4-D	44A30483W01	Gear, RF
251	4-D	04S40075G58	Washer, Polyslider(M2.1)
252	3-H	01A30463W01	Assy.. Riv. Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol
259	3-D	49A30476W01	Pulley, Idler
260	4-E	44A30482W01	Gear, Take Up
261	3-E	44A30478W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B30484W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler A
265	3-E	44A30486W01	Gear, Pause Idler B
266	3-E	44A30479W01	Gear, Reverse Idler
267	2-E	44A30485W01	Gear, Motor Idler
268	2-E	44A30487W01	Gear, Motor Clutch
269	1-G	42A31850W01	Belt, GR
⊙ 270	3-A	01V43400W38	Assy.. GR Audio P.C. Board
□ 270	3-A	01V33300W03	Assy.. GR Audio P.C. Board
△ 270	3-A	01V33300W03	Assy.. GR Audio P.C. Board
272	3-F	04B41345P15	Washer, Lock(M1.2)
273		04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276	3-B	04B41345P32	Washer, Lock(M3.1)
277	2-E	01A30464W01	Assy.. Riv Play Clutch
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F53	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch(M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas Push
286	2-C	41B10386W02	Spring, Sub Head
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B30863W01	Assy.. Pinch Roller
⊙ 290	2-B	84T25151W01	Head P.C. Board

Notes: ⊙ : For GR75H020 model only □ : For GR75H030 model only

△ : For GR75H130 model only Others : Common

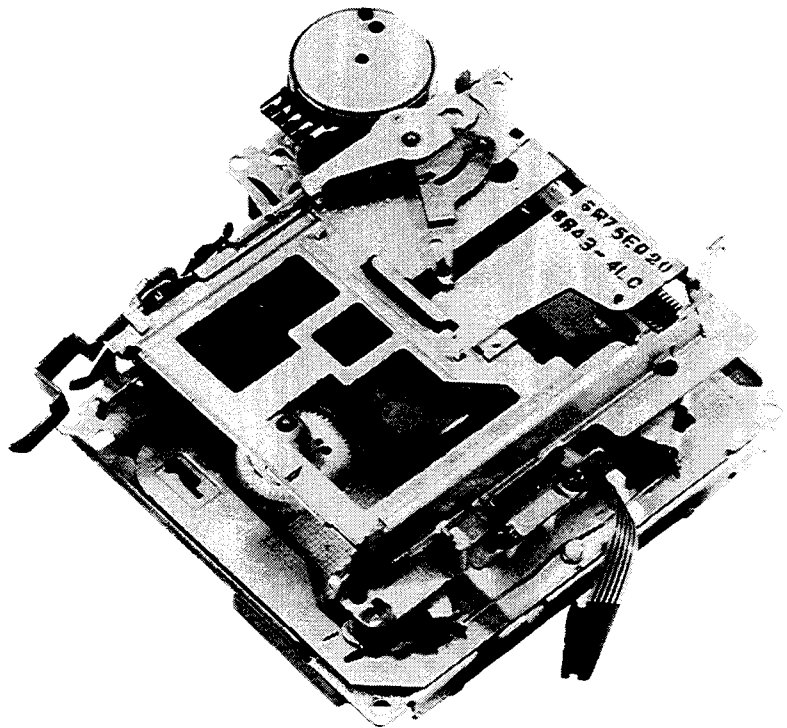
Symbol No.	IN- dex	Part No.	Description
□ 290	2-B	84T35271W01	Head P.C. Board
△ 290	2-B	84T35271W01	Head P.C. Board
291	5-E	01T35403W01	Assy.. Reel
292	5-E	04B41345P12	Washer. Lock(M1.7)
293	2-D	04B41345P35	Washer. Lock(M1.7)
294	2-E	43A30827W01	Spacer. Motor Idler
295	2-E	41A30490W01	Spring. Play Clutch
296	5-D	01A40882W01	Assy.. Riv Lever RF
297	2-D	34A48030W01	Washer. Solenoid
298	3-E	01A10201W02	Assy. Riv Lever Pause
299	4-C	43A40388W01	Spacer. Polyslider
□ 300	2-B	41A41416W01	Spring. Head
△ 300	2-B	41A41416W01	Spring. Head
Miscellaneous			
◎ 501	2-B	88T15971W01	Head
□ 501	2-B	88T35406W01	Head
△ 501	2-B	88T35406W01	Head
502	5-F	01V41100W72	Assy.. Motor(11.5v-85mA)
503	3-G	51T15144W01	Sensor. Photo
504	4-G	01T10371W01	R/F Sol. Assy.
505	4-F	40T15382W01	SW.. Detector (Pack Down)
506	4-G	40T15382W01	SW.. Detector(Metal)
507	2-C	40T15222W01	SW.. Detector (Pack In)
508	2-D	01T15249W01	Assy.. Play Solenoid
509	4-D	01T10369W02	Assy.. Eject Solenoid

Notes: ◎ ; For GR75H020 model only □ ; For GR75H030 model only
 △ ; For GR75H130 model only Others ; Common

ALPINE SERVICE MANUAL

Cassette Deck Mechanism

ADDENDUM & REVISED (III)



GR/GR-Y SERIES

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Memo

List of Usable Lock Washers

	SIZE	PARTS NO.	QUANTITY		
			GR75E Series	GR75L Series	GR-Y Series
1	(M1.2 × 3.5 × 0.25)	04B41345P01	8	7	6
2	(M1.7 × 3.5 × 0.25)	04B41345P02	1	1	2
3	(M2.1 × 5 × 0.25)	04B41345P06	1	1	0
4	(M1.2 × 2.5 × 0.25)	04B41345P11	7	7	8
5	(M1.7 × 3.5 × 0.35)	04B41345P12	2	2	2
6	(M1.2 × 3.5 × 0.35)	04B41345P15	1	1	1
7	(M1 × 2.5 × 0.25)	04B41345P17	1	1	1
8	(M2.6 × 5 × 0.25)	04B41345P29	1	1	0
9	(M3.1 × 8 × 0.05)	04B41345P30	1	1	1
10	(M1.7 × 3 × 0.25)	04B41345P31	1	1	1
11	(M3.1 × 5 × 0.35)	04B41345P32	2	2	2
12	(M1.2 × 2.5 × 0.3)	04B41345P34	1	1	0
13	(M2.1 × 4 × 0.25)	04B41345P37	0	0	1
14	(M2.6 × 4.7 × 0.25)	04B41345P38	0	0	1

List of Usable Oil

- 1) Molykote E paste
- 2) Grease EM-30L
- 3) Grease FLOIL 425A

List of Usable Jigs

- 1) GR bottom gear jig (Part No. 44A20788W01)
- 2) Head height adjustment gauge
AI-500 (Part No. AI-500)

Disassembly, Assembly and Replacement of Functional Parts

1. Disassembly and Assembly of Bottom Cover

- (1) Turn the mechanism around as shown in Figure 1.
- (2) Remove M1 lock washer ① as shown in Figure 1.
- (3) Remove three screws ② as shown in Figure 1.
- (4) Lift the bottom cover slowly from the position A-1, pull the hooks out of the holes in the chassis, and remove the bottom cover as shown in Figure 1.
- (5) When remounting the bottom cover, first turn the front of the mechanism up as shown in Figure 2.
- (6) Slide the slider in the direction A-2 as shown in Figure 2.
- (7) Push down the cassette holder in the direction A-3 as shown in Figure 2.
- (8) Pull the door pin in the direction A-4 so that the mechanism is locked in as shown in Figure 2.
- (9) Turn the mechanism around as shown in Figure 3.
- (10) Pull the automatic metal lever in the direction A-5 and the RF solenoid chip in the direction A-6 as shown in Figure 3.
- (11) Insert the hooks of the bottom cover into the chassis in the direction A-7, and then join the part A-8 of the bottom cover to the chassis slowly, making sure that the 3 points indicated with the straight lines in the Figure 3 are fitted properly.
If there are troubles in mounting the bottom cover, do not apply force but remove the bottom cover once again and check the positions of the individual parts. (Refer to Figure 3.)
- (12) Since the hooks marked A-8 will be lifted slightly as shown in Figure 4, insert the jig through the hole A-9, and fix it turning the jig slightly in the direction A-11. Instead of operation (12), turn the gear nose slowly with a precision screwdriver etc., taking care not to damage it. After 2 to 3 turns, it will click into place. (Refer to Figures 4 and 5.)
- (13) Fix the screws and the lock washer that have been removed.

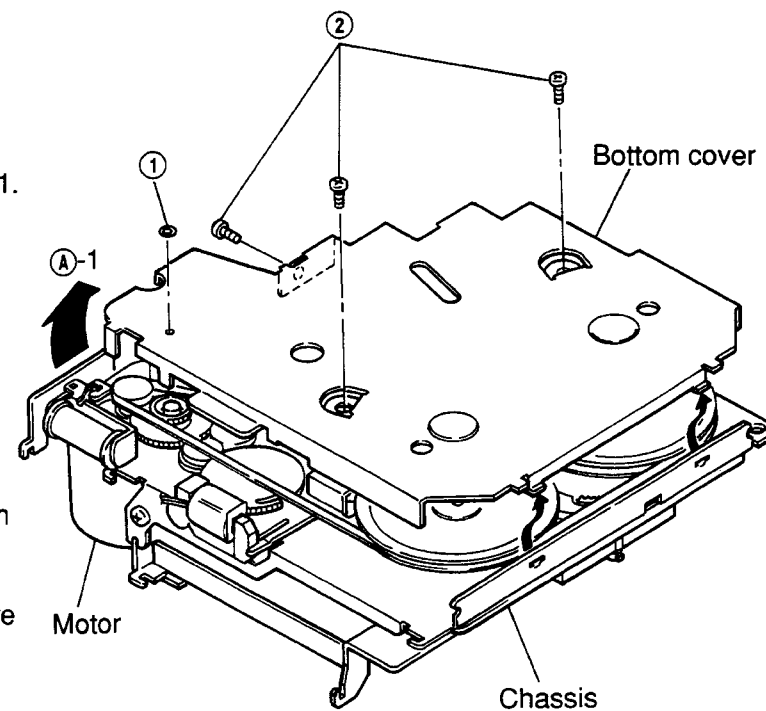


Figure 1

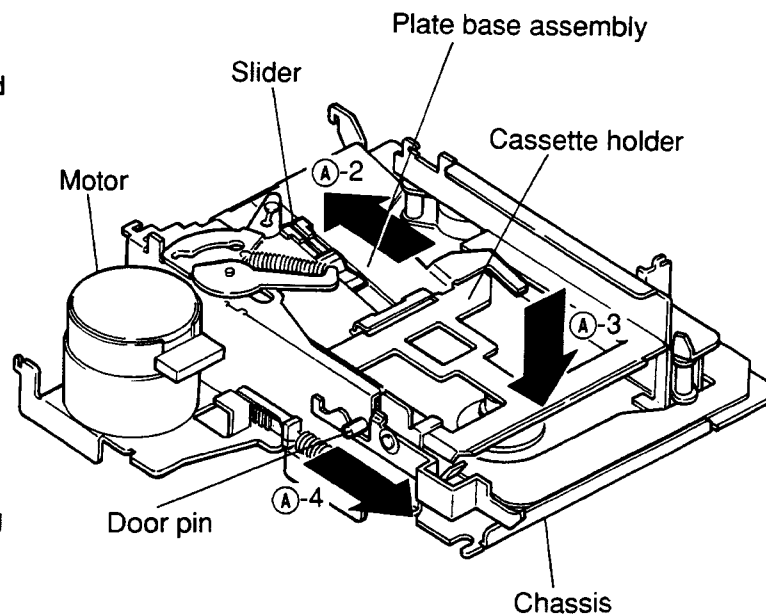


Figure 2

- (14) Insert the jig into the hole A-9 as shown in Figure 4 and rotate the eject solenoid counterclockwise about 20 times, pulling it in the direction A-10 with the finger. Then the eject operation is completed. Instead of operation (14), the eject operation can be performed by mounting the mechanism to the product. (Refer to Figures 4 and 5.)

Note: Do not reuse the used lock washers for mounting.
When turning the mechanism, be careful not to drop the gear and the flywheel.
Fasten the three screws with a fastening torque of 6 kg.cm.

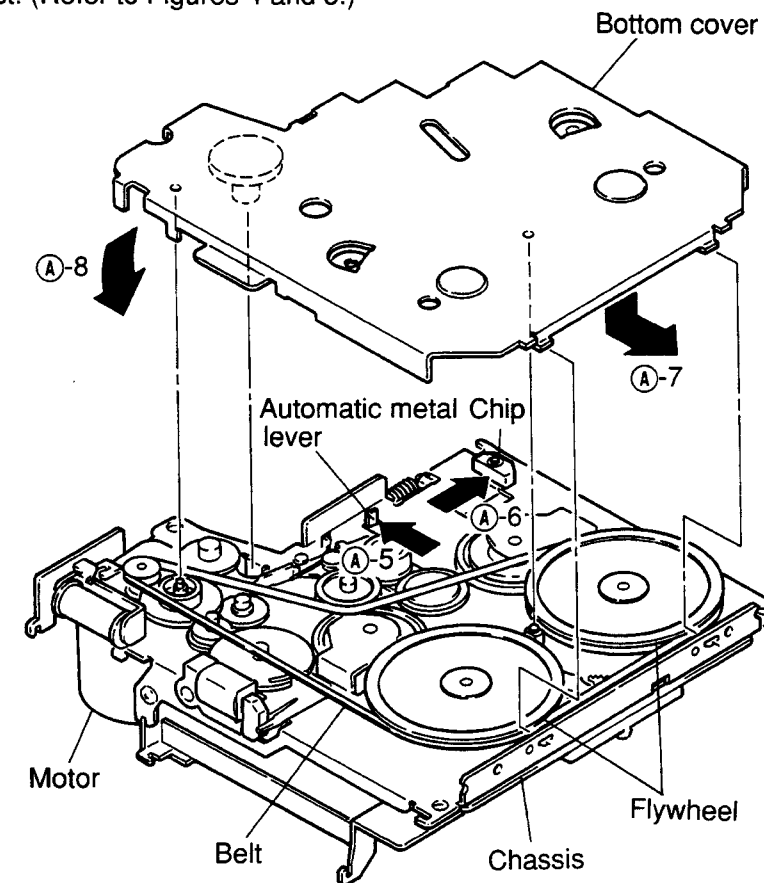


Figure 3

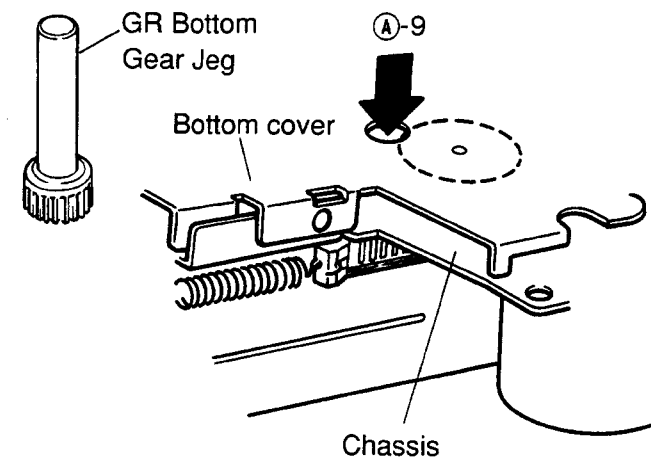


Figure 4

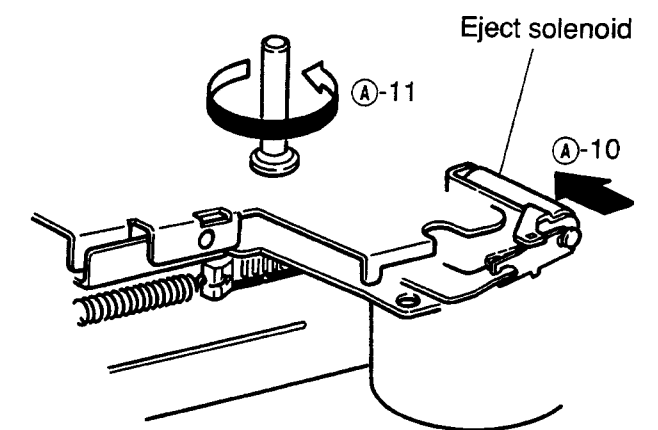


Figure 5

2. Replacement of the bottom cover mounting parts

a. Replacement of the eject gear

- (1) Remove M1.2 lock washer ③ as shown in Figure 6.
- (2) Pull the eject pinion out of the eject gear and remove the eject gear as shown in Figure 6.
- (3) Apply the molykote E paste to the section ⑧-1, and mount the eject gear following the removal steps in the reverse order. After replacement is finished, make sure that the gear rotates smoothly. (Refer to Figure 6.)

Note: Do not reuse the used lock washers for remounting.
Take care to avoid damage by piercing and tearing.

b. Replacement of the RF solenoid

- (1) Remove two solders ④ and remove the RF solenoid from the bottom cover by pulling it up as shown in Figure 6.
- (2) Replace the solenoid with a new one, and remount it following the removal steps in the reverse order as shown in Figure 6.

Note: When removing solder ④, set the temperature of the soldering iron to $350^{\circ} \pm 10^{\circ}$ and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged.

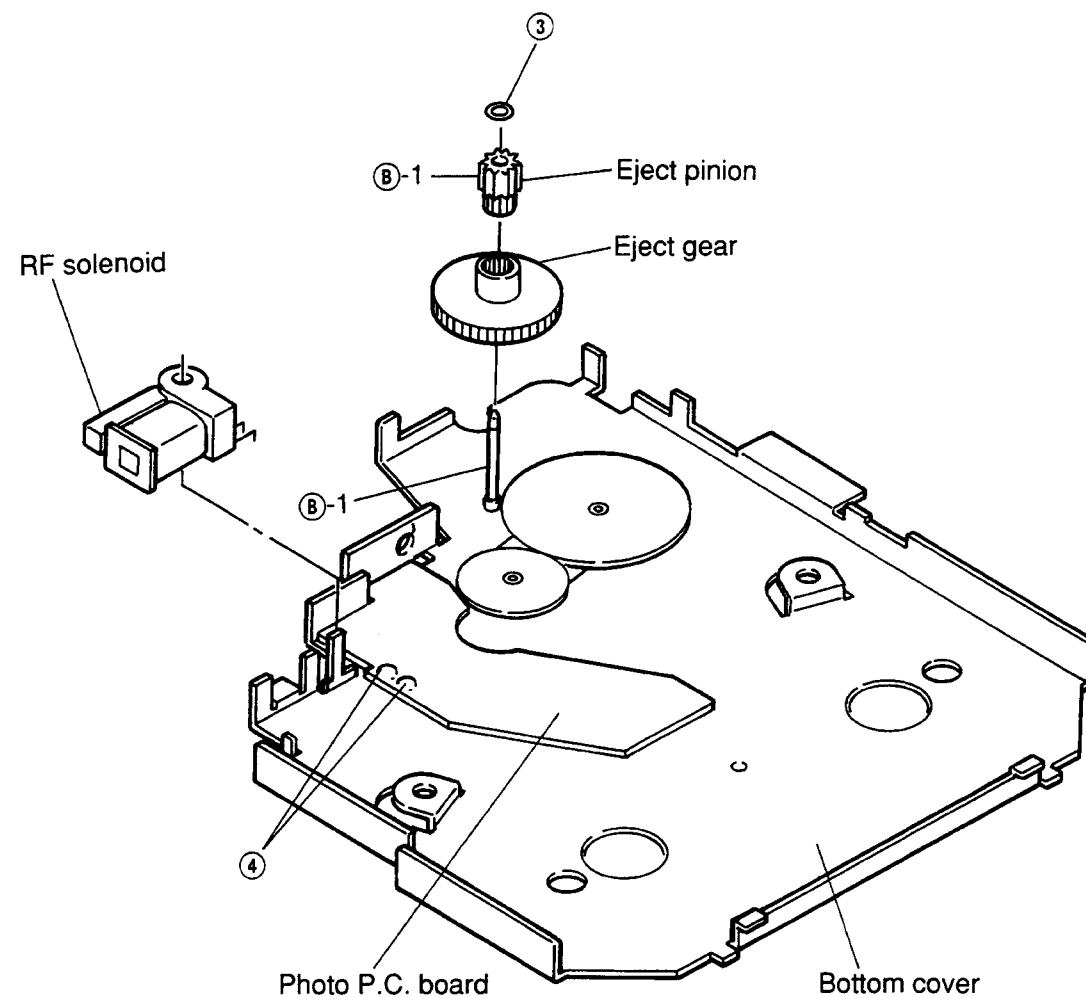


Figure 6

c. Replacement of the photo sensor

- (1) Remove four solders ⑤ as shown in Figure 7.
- (2) Remove the photo guide together with the photo sensor from the photo P.C. board as shown in Figure 7.
- (3) Insert the new photo sensor into the photo guide, and bend the legs of the photo sensor in the direction marked ⑧-2 as shown in Figure 7.
- (4) Insert the photo guide into the P.C. board and solder the legs so that the photo sensor is set as indicated by [] in Figure 7.

Note: When using the soldering iron, set the temperature of the soldering iron to $350^{\circ} \pm 10^{\circ}$ and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged. Also take care that the photo guide is properly fixed and straight.

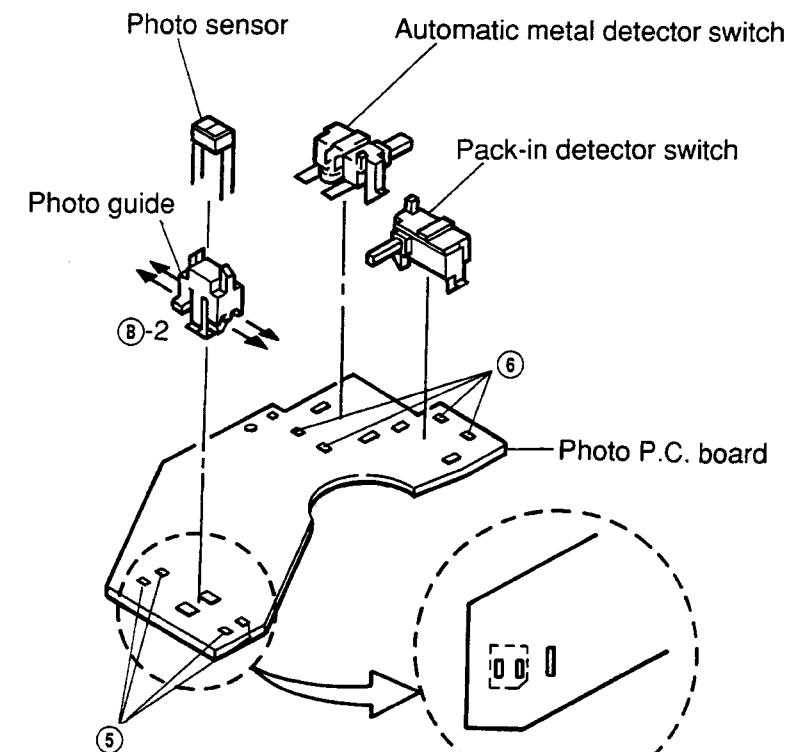


Figure 7

d. Replacement of the detector switch (Automatic metal pack-in)

- (1) Remove 4 solders ⑥ with which the switch is fixed as shown in Figure 7.
- (2) Prepare the terminals of the switch of the new solder as shown in Figure 8.
- (3) After that, insert the switch into the photo P.C. board, and solder the terminals.

Note: When using the soldering iron, refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Also take care that the switch guide is properly fixed and straight.

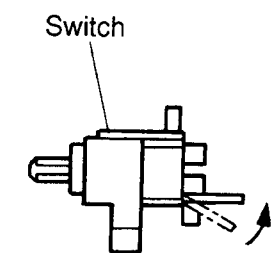


Figure 8

3. Replacement of the mounting parts on the rear of the main chassis

a. Replacement of the belt

- (1) After removing the bottom cover, remove the belt.
- (2) Clean the new belt with absolute alcohol, and fix it as shown in Figure 9.

Note: When fixing the belt, make sure that it is not twisted or dirty. When removing the belt, do not turn up the front of the chassis.

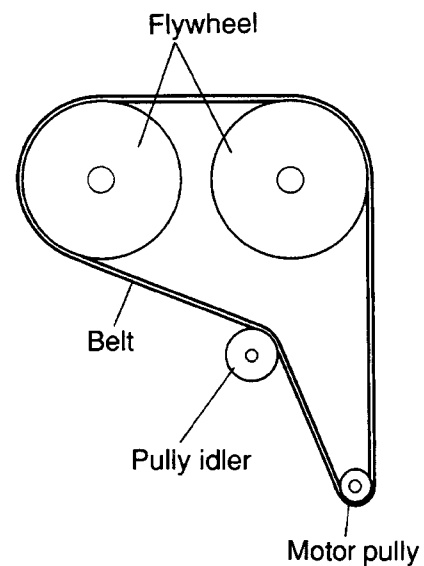


Figure 9

b. Replacement of the motor

- (1) After removing the belt, remove spring ⑦ as shown in Figure 10.
- (2) Remove solder ⑧-1, and remove the parallel wire (5P) from the control P.C. board as shown in Figure 11.
- (3) Remove two screws ⑨ and ⑩, and remove the motor, taking care not to damage the motor idler gear. (Refer to Figure 10.)
- (4) Mount the new motor following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Since the parallel wire is very easily damaged, handle it with care.
Fasten the two screws with a fastening torque of 3 kg.cm.

*When inserting the clutch spring, be careful of the inserting direction as shown in the Figure.

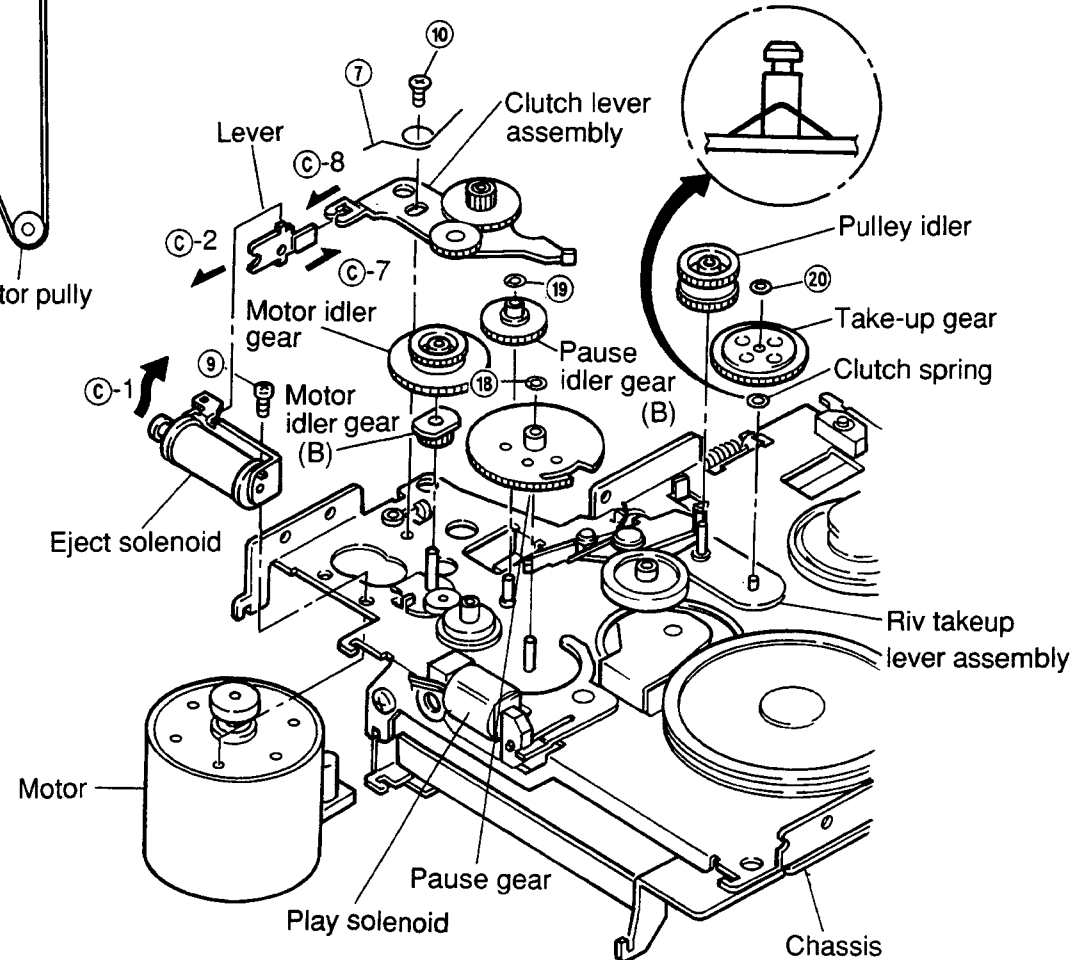


Figure 10

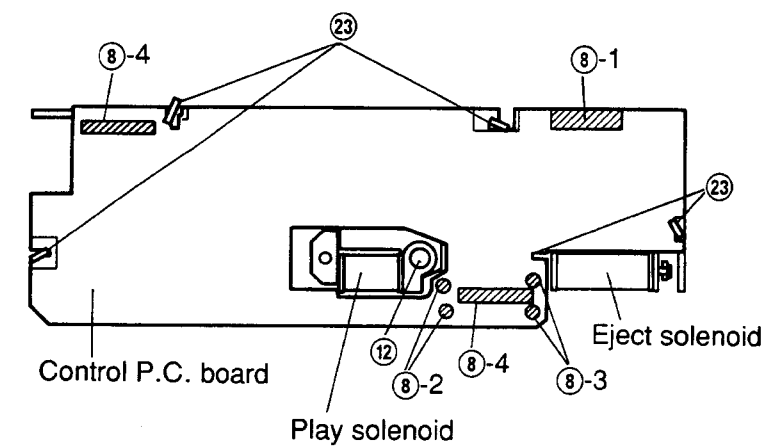
c. Replacement of the flywheels

- (1) After removing the belt, pull out the two flywheels. Take care not to loose the polyslider washer ⑪ located between the flywheel and the chassis. (Refer to Figure 12.)
- (2) Fix the polyslider washer to the new flywheel and mount the flywheel to the chassis.

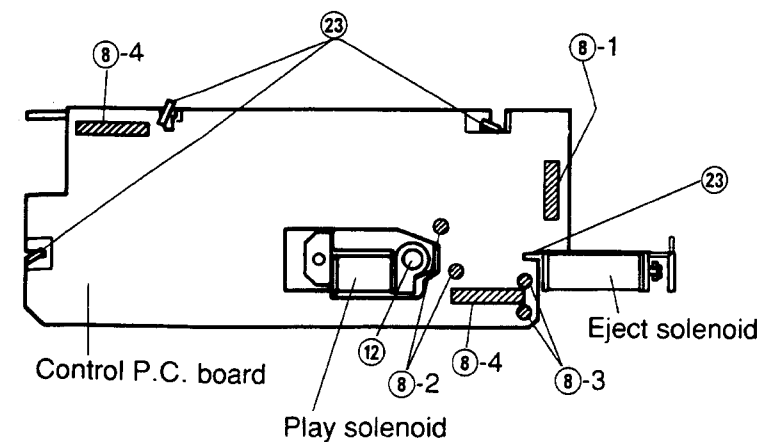
d. Replacement of the play solenoid

- (1) Remove the two solders ⑧-2 as shown in Figure 11.
- (2) Remove one screw ⑫ and remove the solenoid as shown in Figure 11.
- (3) Mount the new solenoid following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 2.3 kg.cm.



[For GR75E020, GR75E010, GR75E01A, GR75E01C models]



[For GR75L020, GR75L010 models]

Figure 11

e. Replacement of the eject solenoid

- (1) Remove two solders ⑧-3. Take care not to loose the tube that protects the wire. (Refer to Figure 11.)
- (2) Remove screw ⑨ and remove the play solenoid as shown in Figure 10.
- (3) Align position ③-1 of the new solenoid with position ③-2 of the lever and fasten the screw as shown in Figure 10.
- (4) Lead the wire through the tube and solder it.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 3 kg.cm. As the solder wires are not insulated, do not let them cross each other.

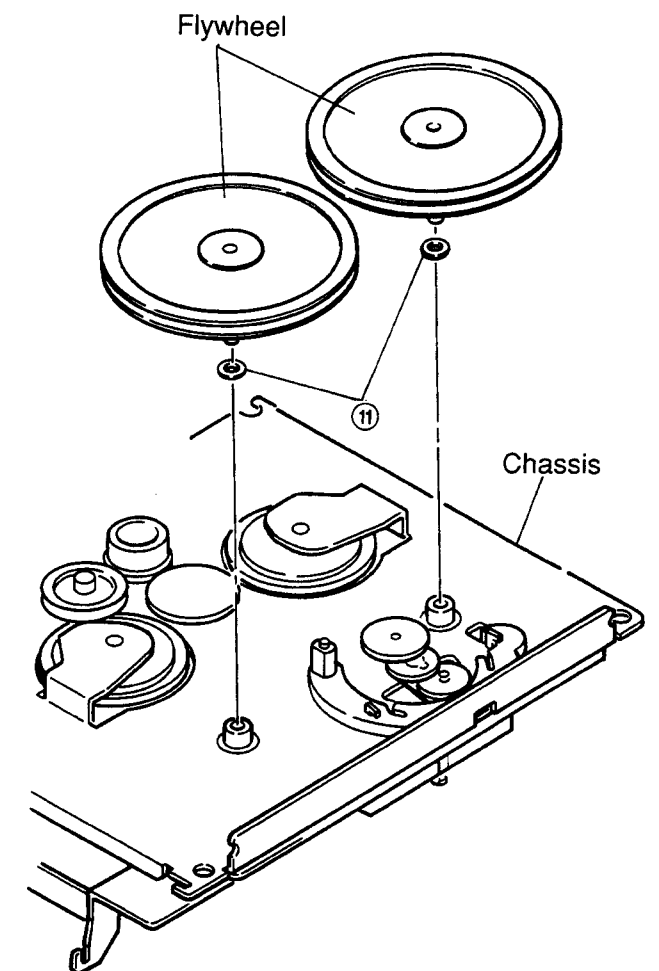


Figure 12

Suyel

f. Replacement of gears

(f-1) Replacement of the reverse idler gear

- (1) Remove M1.2 lock washer ⑬, pull it up from the stud of the chassis and remove the gear as shown in Figure 13.
- (2) Remount following the removal steps in the reverse order.

(f-2) Replacement of the sun gear

- (1) Remove M1.2 lock washer ⑭, pull it up from the stud of the chassis and remove the gear as shown in Figure 13.
- (2) Mount it, following the removal steps in the reverse order.

(f-3) Replacement of the fixing gear

- (1) Adjust the two mounting claws for the fix gear on the chassis ⑮ and remove the section ㉑-3 of the gear by pulling it up in the direction of the arrow shown in Figure 13.
- (2) Insert the section ㉑-4 of the new gear into the chassis, and mount it following the removal steps in the reverse order as shown in Figure 13.

(f-4) Replacement of the reverse lever assembly and planet gear

- (1) Remove both the fixing gear and the sun gear and remove the reverse lever assembly as shown in Figure 13.
- (2) Remove M1.7 lock washer ⑯ and remove the planet gear as shown in Figure 14.
- (3) Mount the new planet gear and reverse lever following the removal steps in the reverse order.

Notes on f-1 through f-4:

After mounting all parts, check if the reverse lever moves in the directions marked ㉑-5 when the reverse gear is turned clockwise and counterclockwise.

*After mounting the fixing gear, bend the claws ⑮ into the form of as shown in the Figure.

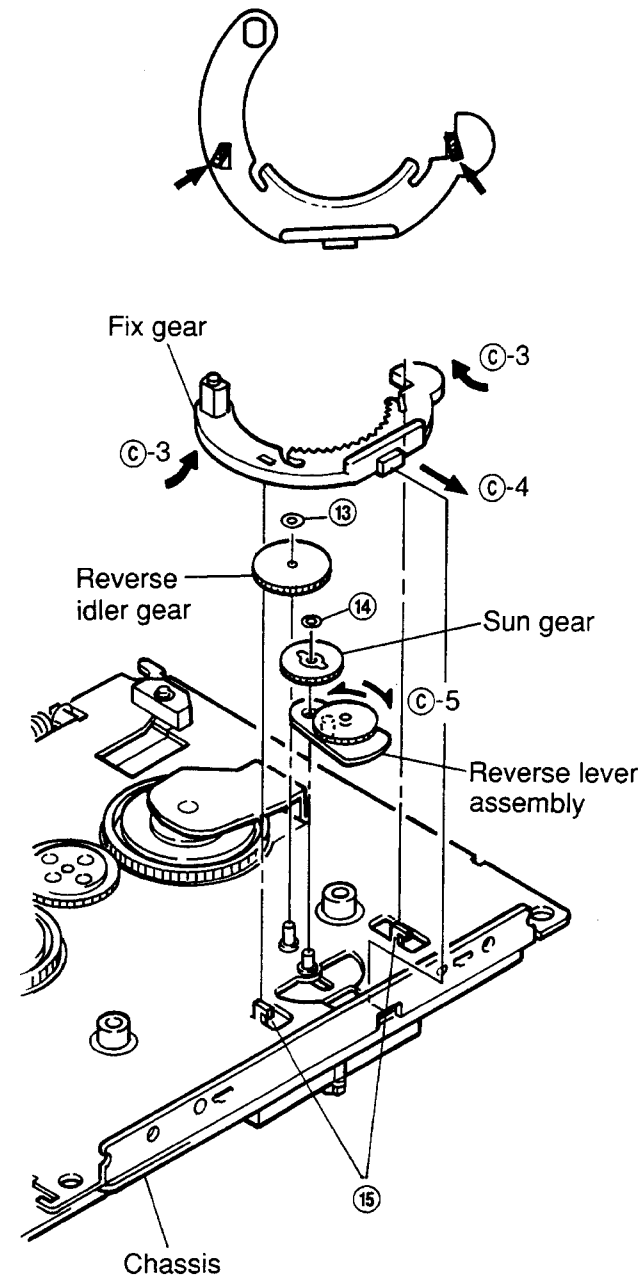


Figure 13

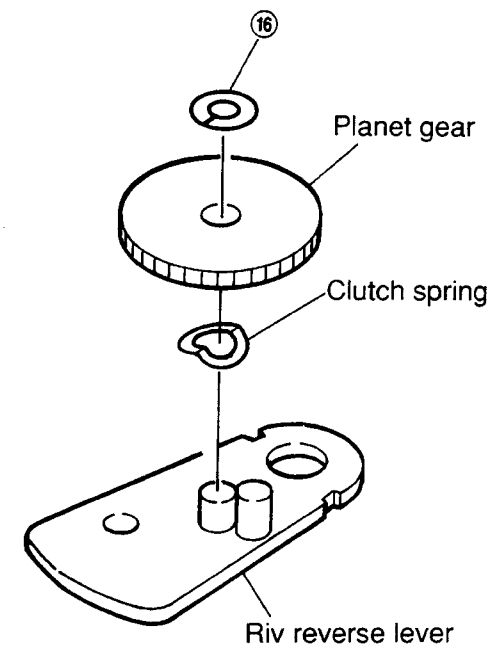
(f-5) Replacement of the clutch lever assembly and eject idler gear

- (1) After removing the motor, remove the motor idler gear and the motor idler gear (B) and remove the clutch lever assembly as shown in Figure 10.
- (2) Remove M1.2 lock washer ⑰ and remove the eject idler gear as shown in Figure 15.
- (3) Mount the new gears and clutch lever following the removal steps in the reverse order.

Note: When mounting the gears to the lever, apply grease (FLOIL 425A) to the position ㉑-6 as shown in Figure 15. Align the position ㉑-7 with the position ㉑-8 and mount the clutch lever as shown in Figures 10 and 15.

(f-6) Replacement of the pause gear

- (1) Remove M1.2 lock washer ⑱ and remove the pause gear pulling it up from the stud of the chassis as shown in Figure 10.
- (2) Mount the new gear following the removal steps in the reverse order.



[Disassembly Reverse Lever Assembly]

Figure 14

(f-7) Replacement of the pause idler gear (B)

- (1) After removing the motor and the motor idler gear, remove M1.2 lock washer ⑲ and remove the gear by pulling it up from the stud of the chassis as shown in Figure 10.
- (2) Mount the new gear by following the removal steps in the reverse order.

(f-8) Replacement of the take-up gear

- (1) After removing the belt and the pulley idler gear, remove M1.2 lock washer ⑳ by pulling it up from the stud of the riv take-up lever assembly as shown in Figure 10.
- (2) Remount the take-up gear following the removal steps in the reverse order.

Notes on f:

Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

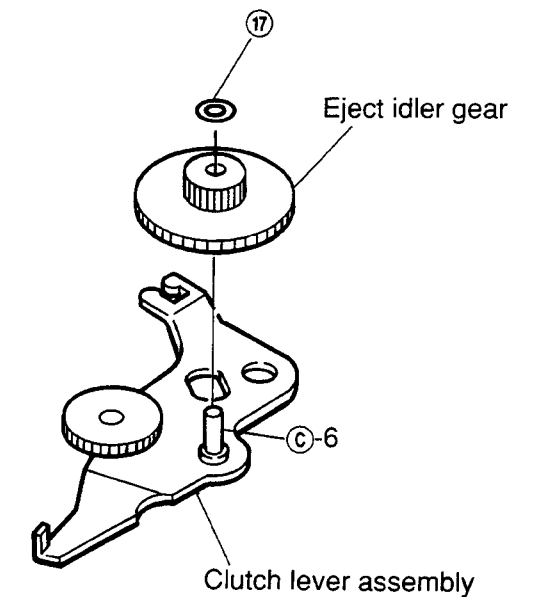


Figure 15

4. Replacement of the parts mounted on the front of the chassis

a. Replacement of the audio P.C. board

- (1) Remove two solders ⑳ and remove the parallel wire (7P) and the head P.C. board as shown in Figure 16.
- (2) Adjust the two claws ㉒ to the rectangular holes on the P.C. board and remove the P.C. board as shown in Figure 16.
- (3) After replacement, mount the new P.C. board following the removal steps in the reverse order.

Note: The head P.C. board and the parallel wire are easily damaged. Handle them with care. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board.

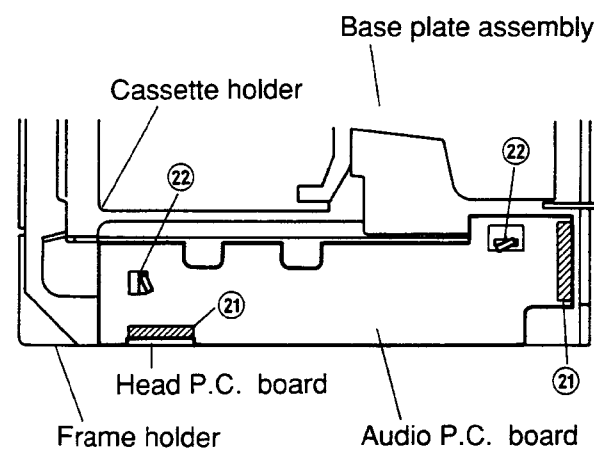


Figure 16

b. Replacement of the control P.C. board

- (1) Remove seven solders ㉑ and remove the three parallel wires and the wires of the eject solenoid and of the play solenoid as shown in Figure 11.
- (2) Remove five claws ㉓ and remove the P.C. board as shown in Figure 11. [For GR75E020, GR75E010, GR75E01A, GR75E01C models] Remove four claws ㉓ and remove the P.C. board as shown in Figure 11. [For GR75L020, GR75L010 models]
- (3) After replacing the old P.C. board with a new one, mount it following the removal steps in the reverse order.

Note: As mentioned in Item 4-a, handle the parallel wires carefully, and be sure that the temperature of the soldering iron and the soldering time are proper. As the wires of the eject solenoid are not insulated, do not let them cross each other.

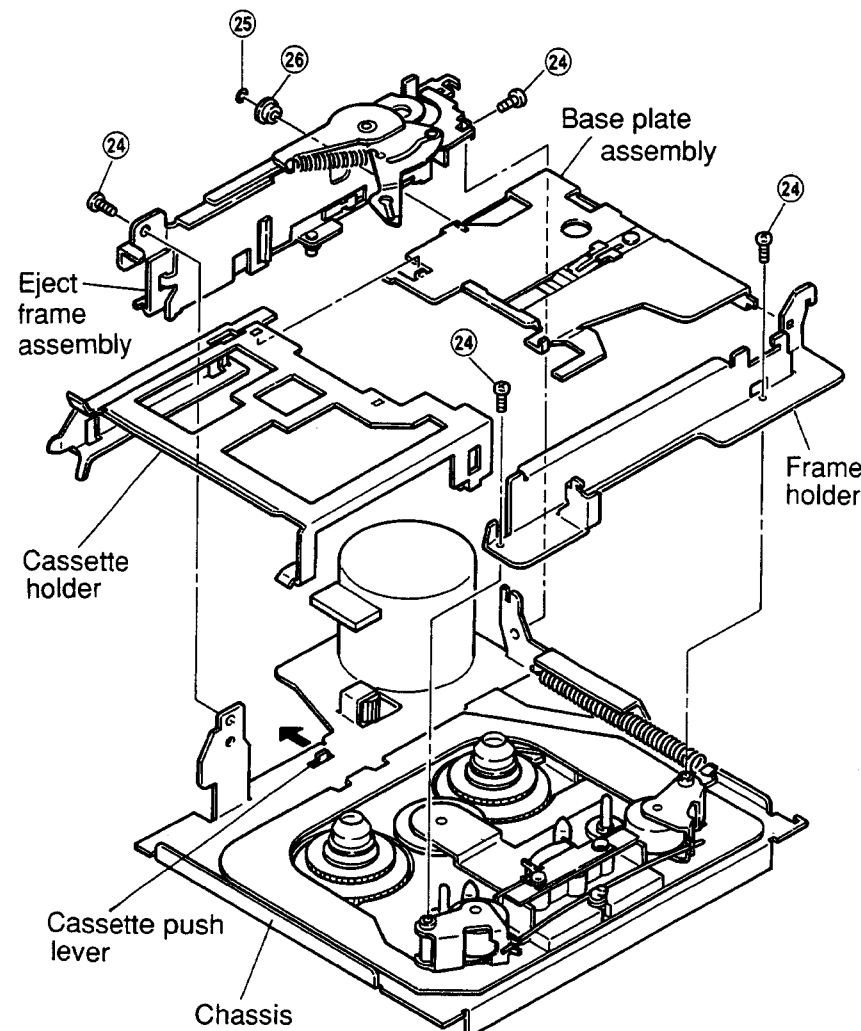


Figure 17

c. Disassembly and assembly of the cassette holder

- (1) Remove four screws ㉔ and remove the eject frame assembly and the frame holder as shown in Figure 17.
- (2) Remove M1.2 lock washer ㉕ and plate base roller ㉖ and remove the cassette holder and the base plate assembly as shown in Figure 17.
- (3) Remount them following the removal steps in the reverse order.

- Notes:**
1. When mounting the cassette holder and the base plate, insert the slider shaft into the eject arm and fix them turning the slider shaft in the direction indicated by the arrow in the figure. Make sure that the cassette holder and the base plate are in the cassette-in mode during this operation. (Refer to Figure 18).
 2. When mounting the eject frame assembly, push the cassette push lever in the direction indicated by the arrow in the Figure 17.
 3. When mounting the base plate assembly and the eject frame assembly, or when mounting the eject frame assembly to the chassis, do not apply excessive force to avoid deformations of the eject arm and the frame.
 4. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

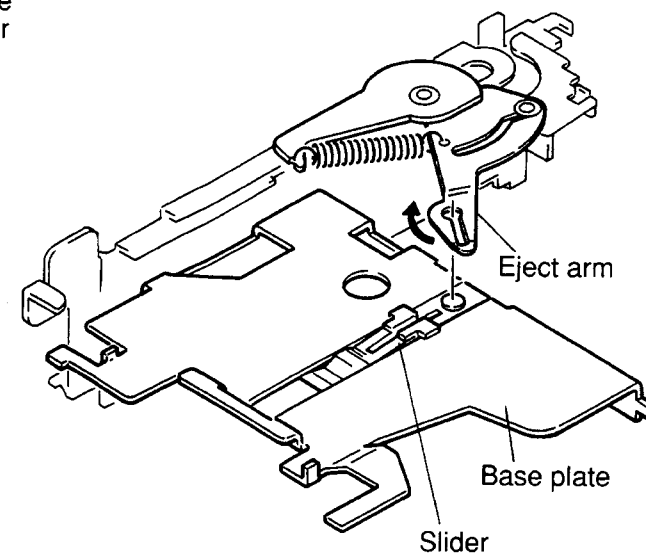


Figure 18

d. Replacement of the reels

- (1) Remove M1.7 two lock washers ㉗ (Refer to figure 19).
- (2) Move the select lever in the direction marked ㉘-1 in the Figure and remove the reel by gripping the reel gear as shown in Figure 19.
- (3) After replacement, mount the new reels following the removal steps in the reverse order.
- (4) After mounting, check the tape speed and the wow and flutter with test tape MTT-111.

Note: Since the reel is easily loosened if the cap is gripped, always handle it gripping the gear. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

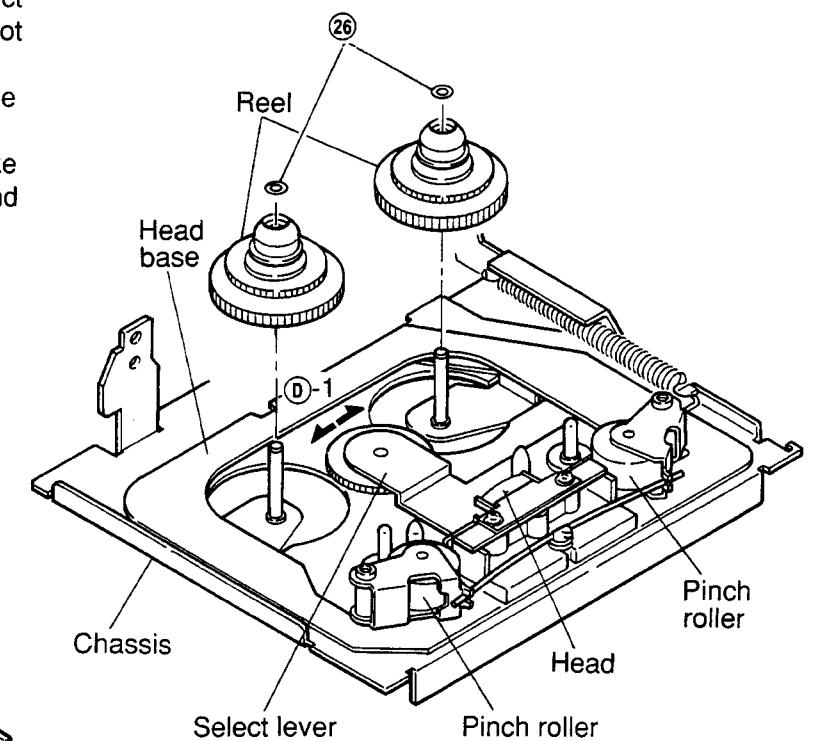
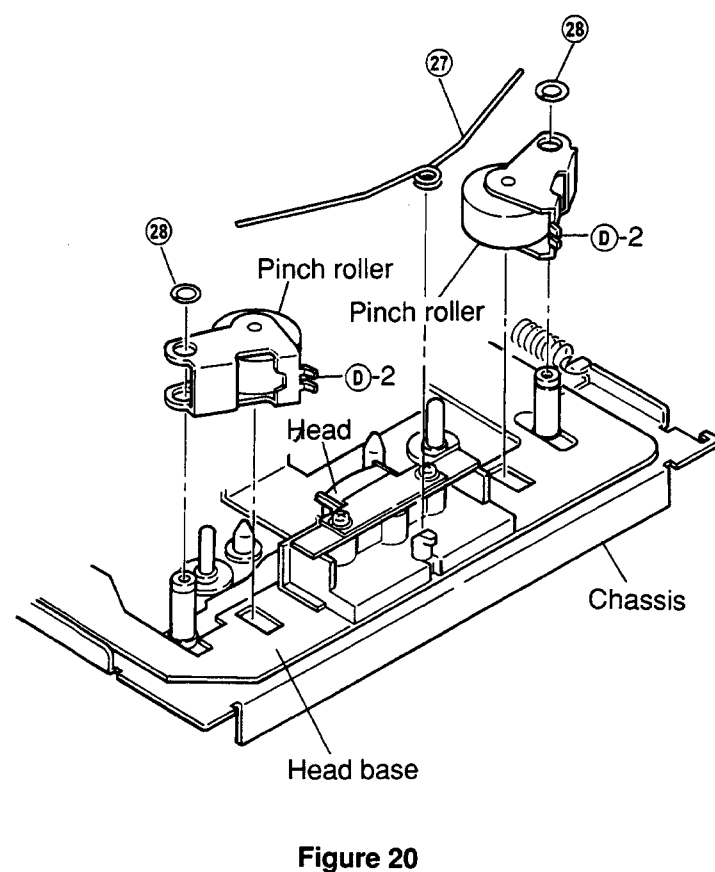


Figure 19

e. Replacement of the pinch rollers

- (1) Remove pinch roller spring ⑳ as shown in Figure 20.
- (2) Remove M3.1 two lock washers ㉘ and remove the pinch roller as shown in Figure 20.
- (3) Mount the pinch rollers following the removal steps in the reverse order.
Apply insulation coating to the position ㉙-2 of the pinch roller as shown in Figure 20.

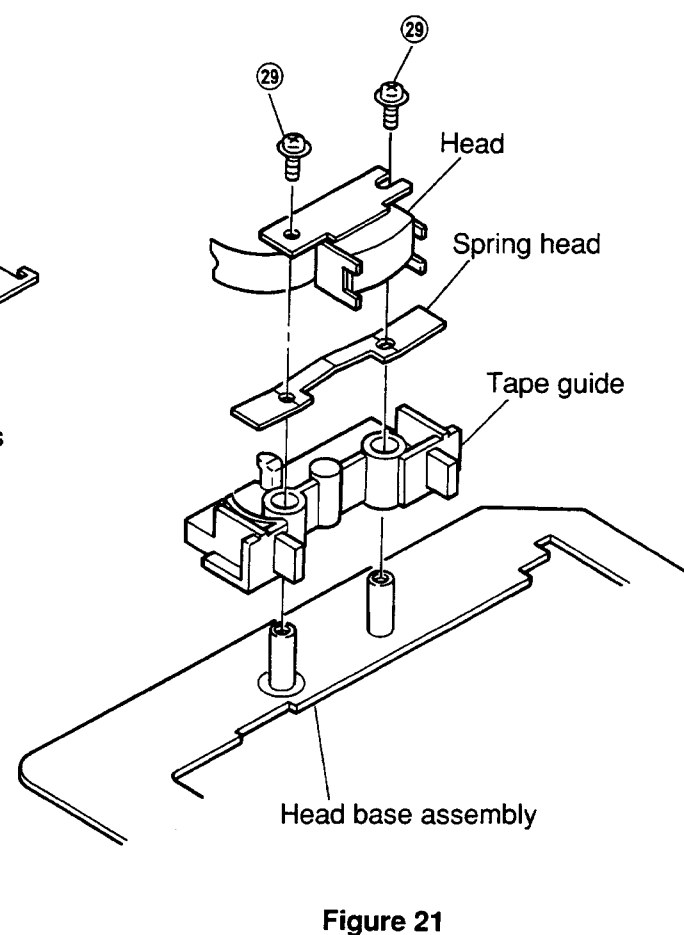
Note: Make sure that the pinch rollers are thoroughly fixed and that they are not deformed. Do not reuse used lock washers. Take care to avoid damage by piercing and tearing.



f. Replacement of the head

- (1) After removing the pinch roller spring, remove two screws ㉚ as shown in Figure 21.
- (2) Remove solder ㉛ and remove the head from the head P.C. board as shown in Figure 22.
- (3) After replacement, mount the new head following the removal steps in the reverse order.

Notes: 1. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board. Make sure that the head P.C. board is not lifted.
2. Fasten the two screws with a fastening torque of 2.3 kg.cm. Note that the tension of the head spring can be decreased if the screws are fastened too strongly.



- (4) Adjust the height of the head as shown in Figures 23, 24 and 25.

- ① Place the height adjustment gauge (AI-500) on the head base, and adjust the height so that the check bar fits in the tape head guide smoothly.
- ② When the check bar touches the top (or bottom) of the tape guide, insert a spacer (t 0.1 mm or polislider washer t 0.13 mm). If necessary, remove the spacer.

Note: If you do not have a height gauge like described in (4)-①, run the tape at normal speed and adjust the height of the head and the tape head guide so that the tape does not curl.

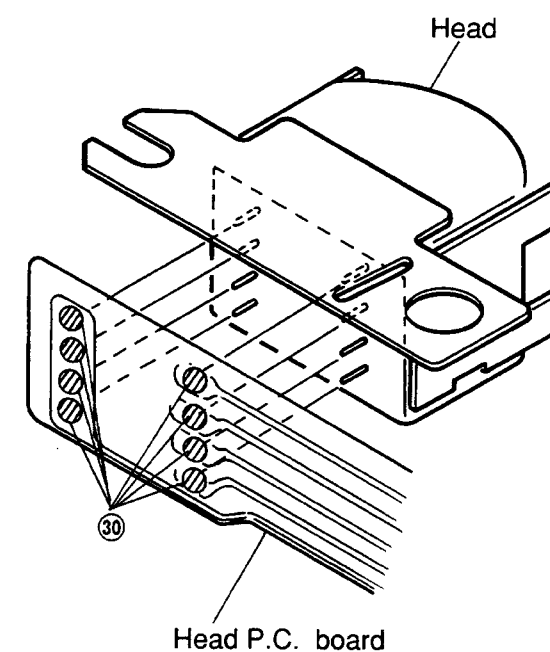


Figure 22

- (5) After having assembled the complete mechanism, adjust the angle of the head with test tape MTT-113C. (Refer to chapter "Adjustment of the head angle".) After the adjustment, apply the screw lock and fix the screws.

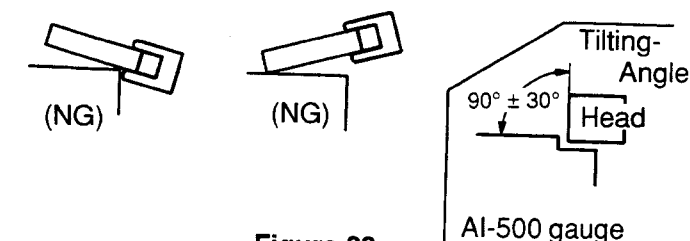


Figure 23

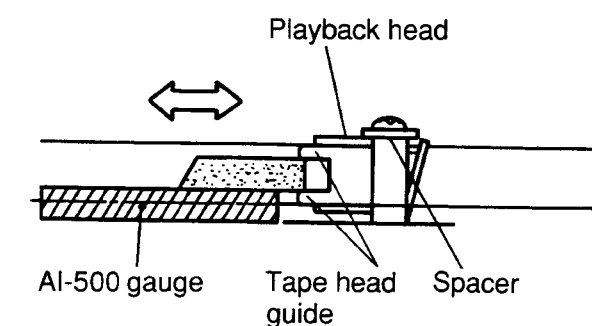


Figure 24

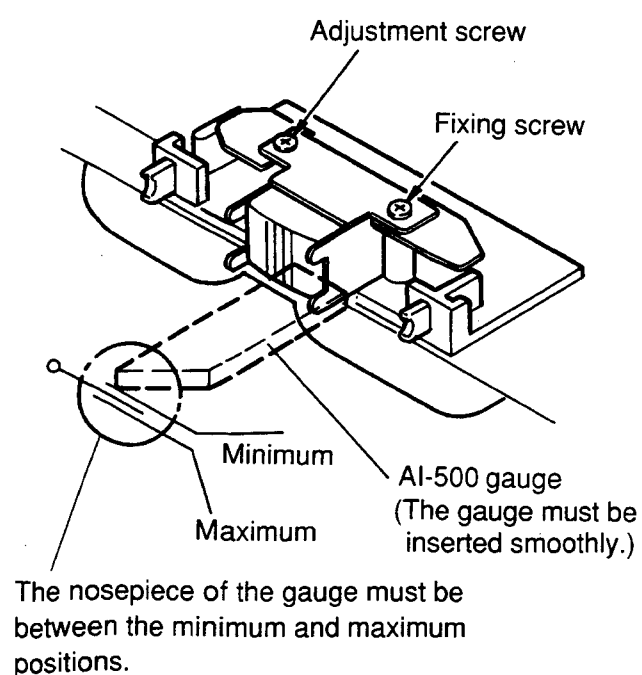


Figure 25

Exploded View (1/3)

● For GR75E010/01A/01C/020 Models

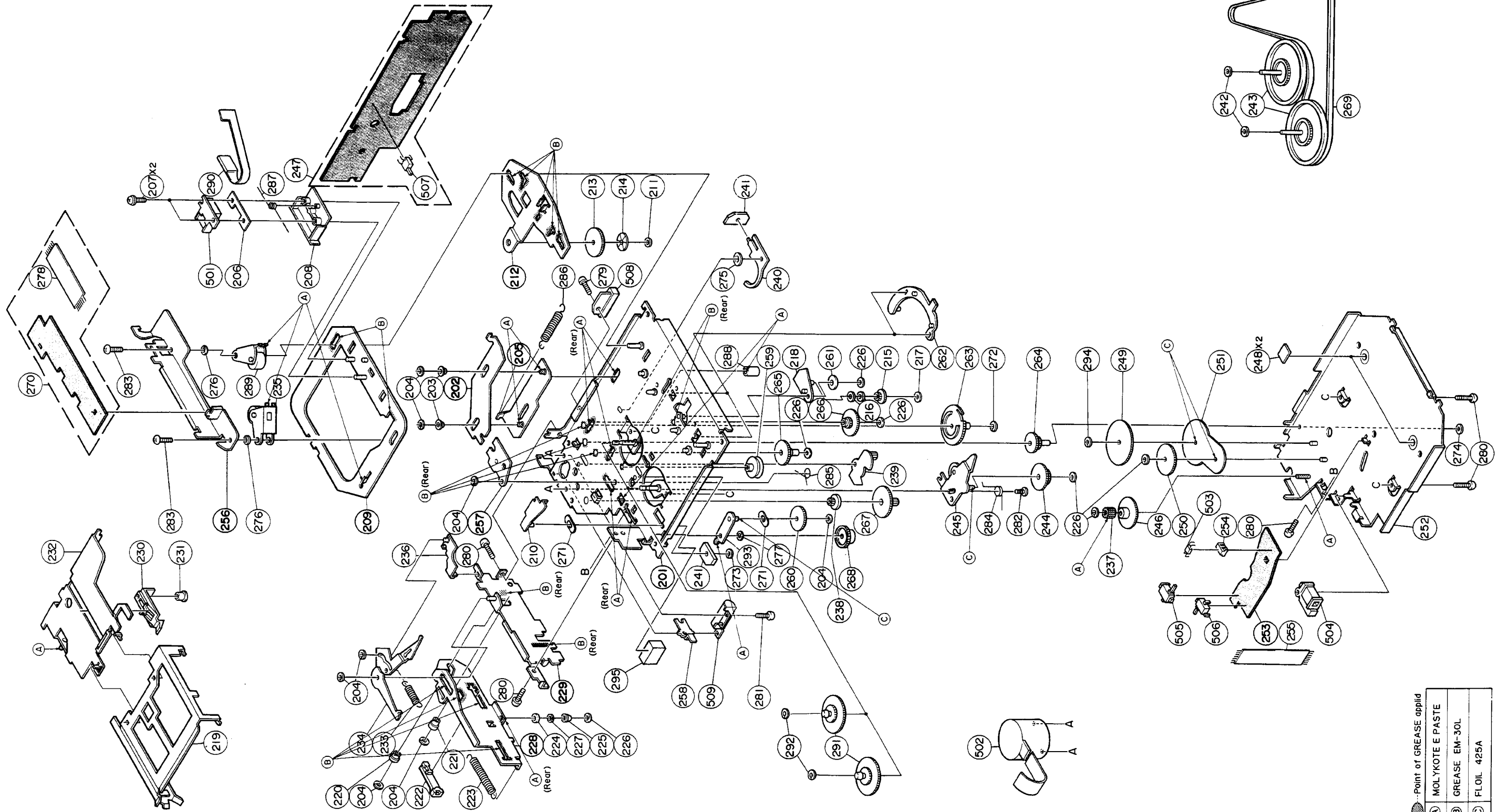
1

2

3

4

5



Point of GREASE applied

(A)	MOL YKOTE E PASTE
(B)	GREASE EM-30L
(C)	FLOIL 425A

Cassette Deck Assembly Parts List (1/3)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roller, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A10095W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy.. Riv Lever R/F Sol
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A10142W01	Gear, Planet
216	3-E	41A10097W02	Spring, Clutch
217	3-E	04B41345P35	Washer, Lock(M1.7)
218	3-E	01A21853W01	Assy.. Riv Lever Reverse
219	4-B	07B10074W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A63281F01	Roller, Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject A
225	4-D	43A10360W01	Roller, Eject B
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject C
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft, Slider
232	4-A	01A10212W01	Assy.. Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A10148W01	Assy.. Riv Eject Arm A
235	3-B	01B10381W02	Assy.. Pinch Roller
236	4-C	45A10087W01	Lever Pack In SW
237	4-F	44A12975W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy.. Riv Lever Pause
240	2-D	45A10092W01	Lever, Play
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer Polyslider (M2.1)
243	1-G	01A10368W01	Assy.. Flywheel
244	3-F	44A10141W01	Gear, Eject Idler
245	3-E	01A10205W01	Assy.. Riv Lever Clutch A
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V11500W18	Assy.. GR Control P.C. Board

Symbol No.	IN-dex	Part No.	Description
248	3-G	43A90918F01	Spacer, Polyslider
249	3-F	44A11063W01	Gear, Bottom A
250	3-F	44A11064W01	Gear, Bottom B
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy.. Riv. Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B10136W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler A
265	3-D	44A10379W01	Gear, Pause Idler B
266	3-E	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
● 270	3-A	01V14700W68	Assy.. GR Audio P.C. Board
■ 270	3-A	01V11500W19	Assy.. GR Audio P.C. Board
▲ 270	3-A	01V11500W19	Assy.. GR Audio P.C. Board
○ 270	3-A	01V11500W19	Assy.. GR Audio P.C. Board
271	4-D	41A10097W02	Spring, Clutch
272	3-F	04B41345P15	Washer, Lock(M1.2)
273	4-D	04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276	3-B	04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P06	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F38	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas Push
286	2-C	41B10386W02	Spring, Sub Head
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause

Symbol No.	IN-dex	Part No.	Description
289	3-B	01B10381W01	Assy.. Pinch Roller
290	2-B	84T10367W01	Head P.C. Board
● 291	4-E	01T15164W01	Assy.. Reel
■ 291	4-E	01T15164W01	Assy.. Reel
▲ 291	4-E	01T15164W02	Assy.. Reel
○ 291	4-E	01T15164W01	Assy.. Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
● 293	4-D	01A11078W01	Assy.. Riv Lever Take Up
■ 293	4-D	01A11078W01	Assy.. Riv Lever Take Up
▲ 293	4-D	01A11078W01	Assy.. Riv Lever Take Up
○ 293	4-D	01A11078W01	Assy.. Riv Lever Take Up
294	3-F	04B41345P34	Washer, Lock(M1.2)
295	4-D	75S12196W88	Rubber, Pad
Miscellaneous			
● 501	2-B	88T15971W01	Head
■ 501	2-B	88T10373W01	Head
▲ 501	2-B	88T10373W01	Head
○ 501	2-B	88T10373W01	Head
502	4-E	01V11500W64	Assy.. Motor
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy.
505	4-F	40T15382W01	SW.. Detector (Pack Down)
506	4-G	40T15382W01	SW.. Detector(Metal)
507	2-C	40T15222W01	SW.. Detector (Pack In)
508	2-D	01T15249W01	Assy.. Play Solenoid
509	4-D	01T10369W02	Assy.. Eject Solenoid

Notes : ● ; For GR75E020 model only ■ ; For GR75E010 model only
 ▲ ; For GR75E01A model only ○ ; For GR75E01C model only

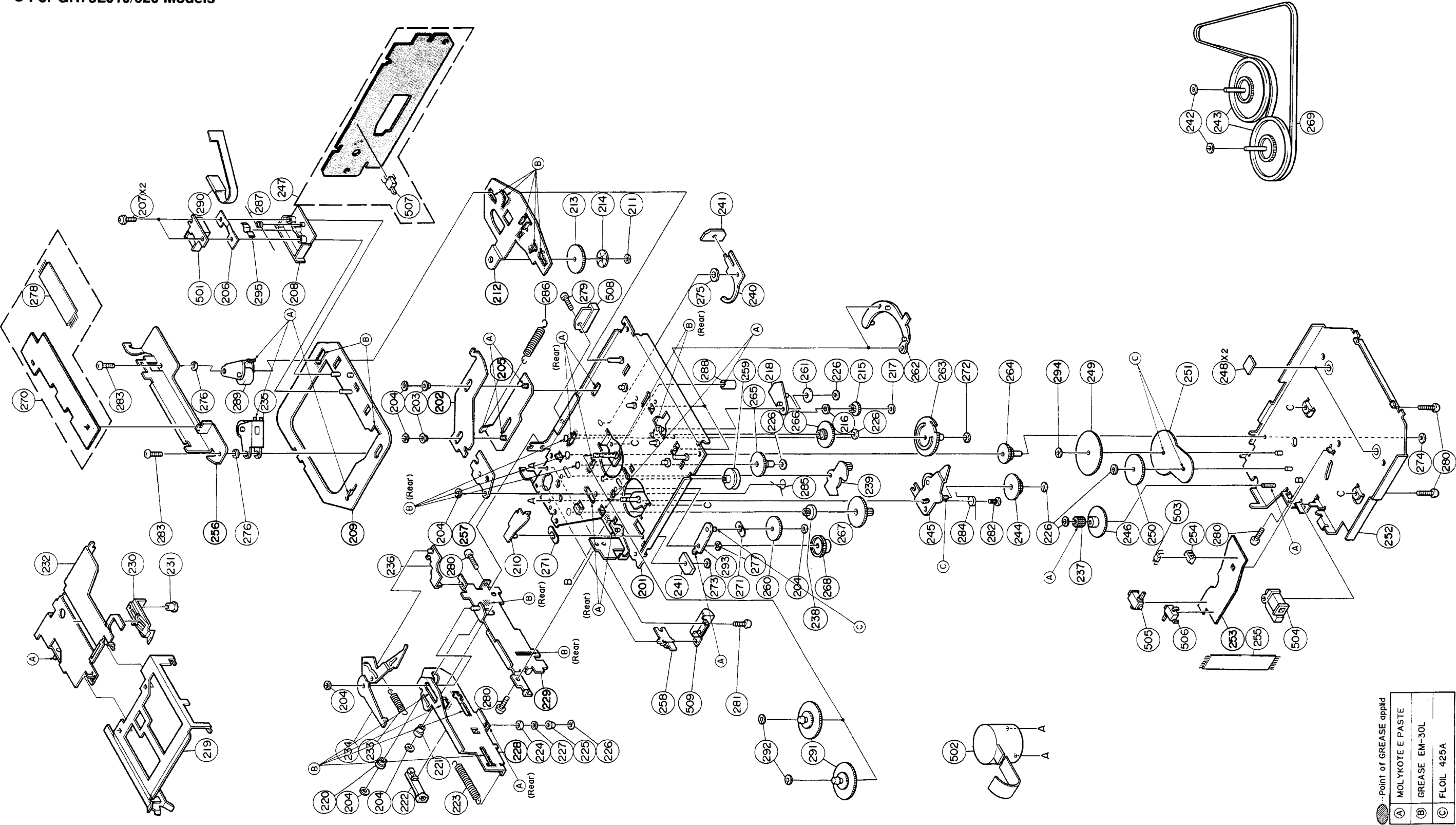
Others ; Common

Notes : ● ; For GR75E020 model only ■ ; For GR75E010 model only
 ▲ ; For GR75E01A model only ○ ; For GR75E01C model only

Others ; Common

Exploded View (2/3)

● For GR75L010/020 Models



Point of GREASE applid	
A	MOLYKOTE E PASTE
B	GREASE EM-30L
C	FLOIL 425A

Cassette Deck Assembly Parts List (2/3)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll. Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A21671W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy., Riv Lever R/F Sol.
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A10142W01	Gear, Planet
216	3-E	41A10097W02	Spring, Clutch
217	3-E	04B41345P31	Washer, Lock(M1.7)
218	3-E	01A21853W01	Assy., Riv Lever Reverse
219	4-B	07B10074W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A22153W01	Roller, Plate Base
222	5-C	44A82206P01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject(A)
225	4-D	43A10360W01	Roller, Eject(B)
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278P01	Shaft, Slider
232	4-A	01A10212W01	Assy., Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A21754W01	Assy., Riv Eject Arm(A)
235	3-B	01B10381W02	Assy., Pinch Roller
236	4-C	45A10087W01	Lever, Pack In SW.
237	4-F	44A20314W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy., Riv Lever Pause
240	2-D	45A10092W01	Lever, Play
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer, Polyslider (M2.1)
243	1-G	01A10368W01	Assy., Flywheel
244	3-F	44A10141W02	Gear, Eject Idler
245	3-E	01A10205W02	Assy., Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V23700W03	Assy., GR Control P.C. Board

Symbol No.	IN-dex	Part No.	Description
248	3-G	43A90918F01	Spacer, Polyslider
249	3-F	44A11063W01	Gear, Bottom(A)
250	3-F	44A11064W01	Gear, Bottom(B)
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy., Riv. Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol.
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B21670W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler(A)
265	3-D	44A10379W01	Gear, Pause Idler(B)
266	3-E	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
★ 270	3-A	01V11500W19	Assy., GR Audio P.C. Board
◆ 270	3-A	01V14700W68	Assy., GR Audio P.C. Board
271		41A10097W02	Spring, Clutch
272	3-F	04B41345P15	Washer, Lock(M1.2)
273	4-D	04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276	3-B	04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P06	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205C78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F38	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas. Push
286	2-C	41B10386W02	Spring, Sub Head
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B10381W01	Assy., Pinch Roller
290	2-B	84T10367W01	Head P.C. Board

Symbol No.	IN-dex	Part No.	Description
291	4-E	01T15164W03	Assy., Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
293	4-D	01A11078W01	Assy., Riv Lever Take Up
294	3-F	04B41345P34	Washer, Lock(M1.2)
295	2-B	26A20537W01	Shield, Plate
Miscellaneous			
★ 501	2-B	88T10373W01	Head
◆ 501	2-B	88T15971W01	Head
502	4-E	01V23900W60	Assy., Motor
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW., Detector (Pack Down)
506	4-G	40T15382W01	SW., Detector (Metal)
507	2-C	40T15222W01	SW., Detector (Pack In)
508	2-D	01T15249W01	Assy., Play Solenoid
509	4-D	01T10369W02	Assy., Eject Solenoid

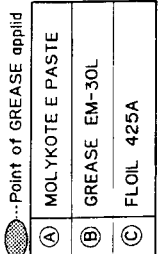
Notes : ★ ; For GR75L010 model only ◆ ; For GR75L020 model only

Others : Common

Notes : ★ ; For GR75L010 model only ◆ ; For GR75L020 model only

Others : Common

● For GR75L02Y Model



Cassette Deck Assembly Parts List (GR-Y Series) (3/3)

Note: The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll. Sub Head
204		04B41345P01	Washer. Lock(M1.2)
206	2-B	41A21671W01	Spring. Head
207	2-B	03S40019G03	Screw. P-Locks(M2x4)
208	2-B	43B12545W01	Tape. Guide
210	4-C	01A10206W01	Assy.. Riv Lever R/F Sol.
211	2-D	04B41345P38	Washer. Lock(M2.6)
213	2-D	44A10295W01	Gear. Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A10142W01	Gear. Planet
216		41A10097W02	Spring. Clutch
217	3-E	04B41345P31	Washer. Lock(M1.7)
218	3-E	01A21853W01	Assy.. Riv Lever Reverse
219	4-B	07B10074W01	Holder. Cassette
220	5-B	43A12583W01	Roller. Eject
221	5-C	43A63281F01	Roller. Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring. CR(Rack)
224	4-C	43A10121W01	Roller. Eject(A)
225	4-D	43A10360W01	Roller. Eject(B)
226		04B41345P11	Washer. Lock(M1.2)
227	4-D	43A12377W01	Roller. Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft. Slider
232	4-A	01A10212W01	Assy.. Riv Plate Base
233	4-C	41B10386W01	Spring. Eject Arm
234	4-B	01A21754W01	Assy.. Riv Eject Arm(A)
235	3-B	01B10381W02	Assy.. Pinch Roller
236	4-C	45A10087W01	Lever. Pack In SW.
237	4-F	44A20314W01	Pinion. Eject
238	4-E	44A13617W01	Gear. Motor Idler(B)
239	3-E	01A10201W02	Assy.. Riv Lever Pause
240	2-D	01A30879W01	Assy.. Riv. Play Sol.
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer. Polyslider (M2.1)
243	1-G	01A10368W01	Assy.. Flywheel
244	3-F	44A10141W01	Gear. Eject Idler
245	3-E	01A10205W02	Assy.. Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear. Eject
247	2-B	01V23700W04	Assy.. GR Control P.C. Board

Symbol No.	IN-dex	Part No.	Description
248	3-G	43A90918F01	Spacer. Polyslider
249	3-F	44A11063W01	Gear. Bottom(A)
250	3-F	44A11064W01	Gear. Bottom(B)
251	3-G	34A11122W02	Washer. GR
252	3-H	01A10210W02	Assy.. Riv. Cover Bottom
254	3-G	15B11065W01	Guide. Photo
255	4-G	30T15126W01	Wire. PC Sensor(7P)
258	4-D	45A10101W01	Lever. Eject Sol.
259	3-D	49A10131W01	Pulley. Idler
260	4-E	44A10133W01	Gear. Take Up
261	3-E	44A10134W01	Gear. Sun
262	3-E	44B10135W01	Gear. Fix
263	3-E	44B21670W01	Gear. Pause
264	3-F	44A10137W01	Gear. Pause Idler(A)
265	3-D	44A10379W01	Gear. Pause Idler(B)
266	3-E	44A10138W01	Gear. Reverse Idler
267	3-E	44A10139W01	Gear. Motor Idler
268	4-E	44A11062W01	Gear. Reel Idler
269	1-G	42A10380W01	Belt. GR
270	3-A	01V33300W03	Assy.. GR Audio P.C. Board
272	3-F	04B41345P15	Washer. Lock(M1.2)
273		04B41345P02	Washer. Lock(M1.7)
274	3-H	04B41345P17	Washer. Lock(M1)
275	2-D	04B41345P30	Washer. Lock(M3.1)
276	3-B	04B41345P32	Washer. Lock(M3.1)
277	4-E	04B41345P37	Washer. Lock(M2.1)
278	2-A	30T15126W02	Wire. PC Joint 7P
279	2-D	03S44205G78	Screw. Pan(M2x6)
280		03S44205G30	Screw. Pan(M2.6x4)
281	4-D	03S72235F38	Screw. Pan(M2x3.3)
282	3-F	03A12132W02	Screw. Eject Clutch (M2x2.3)
283		03S43997P64	Screw. Pan(M1.7x3)
284	3-F	41A10384W01	Spring. Eject Clutch
285	3-E	41A10385W01	Spring. Cas. Push
286	2-C	41B10386W02	Spring. Sub Head
287	2-B	41A10387W01	Spring. Pinch Roller
288	3-D	43A12719W01	Roller. Pause
289	3-B	01B10381W01	Assy.. Pinch Roller
290	2-B	84T35271W01	Head P.C. Board

Symbol No.	IN-dex	Part No.	Description
291	4-E	01T15164W03	Assy.. Reel
292	4-E	04B41345P12	Washer. Lock(M1.7)
293	4-D	01A30161W01	Assy.. Riv Lever Take Up
294	3-F	04B41345P34	Washer. Lock(M1.2)
295	2-B	26A20537W01	Shield. Plate
Miscellaneous			
501	2-B	88T15971W01	Head
502	4-E	01V23900W60	Assy.. Motor
503	3-G	51T15144W01	Sensor. Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW.. Detector (Pack Down)
506	4-G	40T15382W01	SW.. Detector (Metal)
507	2-C	40T15222W01	SW.. Detector (Pack In)
508	2-D	01T15249W01	Assy.. Play Solenoid
509	4-D	01T10369W02	Assy.. Eject Solenoid